

PN-AAU-619

44044

SHELTER SECTOR  
ASSESSMENT

INDONESIA

JANUARY, 1985

Shelter Sector Assessment

INDONESIA

Prepared for:

Office of Housing and Urban Programs  
U.S. Agency for International Development

By:

Paul Turner  
Regional Housing Advisor/Bangkok

Assisted by:

Donald Gardner  
President  
USL International, Inc.

Timothy J. Smith  
Senior Development Finance Consultant  
National Council of Savings Institutions

Nimal Gunatilleke  
Consultant  
National Council of Savings Institutions

S. Suresh  
Branch Manager  
Housing Development Finance Corporation of India

January 1985

# INDONESIA SHELTER SECTOR ASSESSMENT

## TABLE OF CONTENTS

	Page	
Foreword		
List of Abbreviations		
SUMMARY	i-iv	
Chapter 1	Background of the Shelter Problem	1-13
Chapter 2	Macroeconomic Considerations	14-22
Chapter 3	The Housing Development Industry	23-35
Chapter 4	Public Sector Institutions and Policies	36-41
Chapter 5	Public Sector Programs	42-67
Chapter 6	Employment Generation from Housing and Related Infrastructure Development	68-80
Chapter 7	Conclusions and Recommendations	81-89
ANNEX 1	Annual Average Exchange Rates	

## LIST OF ABBREVIATIONS

ADB	-	Asian Development Bank
BAPPENAS	-	National Development Planning Council
BI	-	Bank Indonesia
BKPN	-	National Housing Policy Board
BTN	-	Bank Tabungan Negara, or National Housing Bank
DIP	-	Budget Proposals for Ministries
DPR	-	People's Representative Council
GBHN	-	Guidance of State Policy Document
GOI	-	Government of Indonesia
IGGI	-	Inter-Government Group of Indonesia
ILO	-	International Labor Organization
JICA	-	Japanese International Cooperation Agency
KIP	-	Kampung Improvement Program
LNG	-	Liquefied National Gas
MOPH	-	Ministry of People's Housing
MPR	-	People's Consultative Assemb
NSCI	-	National Council of Savings Institutions
NUDS	-	National Urban Development Strategy
OECD	-	Overseas Economic Cooperation Fund
PERUMNAS	-	Perum Perumnas, or National Housing and Urban Development Corporation
PTPS	-	PT Papan Sejahtera
REPELITA	-	Five Year Development Plan
UNDP	-	United Nations Development Programme
USAID	-	United States Agency for International Development

## FORWORD

This shelter sector assessment is based upon field work conducted during July and August of 1984 under the auspices of the Office of Housing for the U.S. Agency for International Development. Both the field work and the writing of the report were under the auspices of the Office of Housing. The purpose of the assessment is to provide housing information and policy and program recommendations.

The fieldwork was conducted by a team including Paul Turner, Regional Housing Advisor, USAID, Donald Gardner, United States League of Savings Institutions, Nimal Gunatilleke and Timothy Smith, Consultants, National Council of Savings Institutions, S. Suresh, Branch Manager, Housing Development Finance Corporation of India.

While much of the reasoning of the report has been discussed with representatives of USAID and the Republic of Indonesia, it does not represent official positions or policies of either. It is hoped, of course, that the assessment will be persuasive and useful to Government officials as they continue to look for efficient solutions to shelter and urban development problems.

SUMMARY

1. Indonesia has a current and prospective shelter problem primarily because it has a serious demographic problem resulting from the combination of large increases in total population with migration into urban areas. Between 1980 and 2000, the population will increase from 147.5 million to 223 million. Of these 57 million will be added to urban areas.
2. The labor force will grow even faster than population (2.7 percent per year vs. 2.0 percent per year), with the bulk of new workers expected in the cities where most new jobs will be created.
3. The economy of Indonesia is undergoing a major restructuring as an immediate consequence of declining oil revenues, affecting both the economy as a whole and government revenues in particular. This restructuring would be required in the medium term even if oil prices and demand levels were not an immediate problem because domestic consumption will overtake production during the 1990's.
4. This restructuring will affect housing production and affordability in several ways. Most importantly, because oil revenues will be less available to the central government, households will be required to contribute more of their earnings in the form of taxes and user fees. If implemented as proposed, the value-added-tax alone could add as much as 10 percent to house prices. Secondly, the cost of infrastructure will shift increasingly from the central government to provincial and local governments. Localities will recoup these costs through taxes or user fees, each of which will increase the effective cost of shelter. Thirdly, the central government is considering reduction in its wide array of subsidized credit programs in order to conserve capital. This will probably result in increased interest rates in the government's urban homeownership program which is currently the dominant public effort in the cities. Finally, the deregulation of interest rates will make more capital available for housing but will make it more expensive.
5. The construction industry in Indonesia is divided between the formal sector, which dominates non-residential construction and the informal sector which produces most of the housing. Particularly in housing, this distinction is not absolute as many home purchase transactions involve both formal and informal financing and many formally purchased houses are informally expanded or upgraded. Informal sector activities result in the informal subdivision of land which public and/or private landowners tend to ignore in many cases. While it does not provide residents with secure land tenure, any attempt to formalize this process would probably increase land and shelter costs. On the other hand, unplanned or haphazard development can be unacceptably expensive to public agencies, especially when efforts are made to legitimize an informal neighborhood by surveying the properties and providing the residents with secure title and urban services.

6. The most important impediment to Formal sector developers is the unavailability of long-term financing. A lack of competition and management controls for BTN, title uncertainties and the cost of serviced sites are also problems of considerable importance. Small contractors have all of the problems of larger contractors and, as a rule, somewhat less capacity to deal with them. Construction financing is frequently unavailable to small contractors because they are unwilling to expose themselves to financial scrutiny for tax-avoidance reasons. In addition, many small contractors lack financial management skills and cannot afford the overhead burden of acquiring in-house financial and other management. The current organization of the public sector in Indonesia puts too much of a policy burden on the highest levels of the Ministries of Finance and Bappenas. Policy gets made primarily in the budget process. The National Housing Planning Board (BKPN) ought, in theory, to be the focus for policy development but it has been little used to date. The recent elevation of the Ministry of People's Housing from the status of junior ministry in the Ministry of Public Works to a separate state coordinating ministry will give it the opportunity to provide a focus for housing policy development. This opportunity will be enhanced by transfer of the chairmanship of the BKPN from the Minister of Public Works to the Minister of Peoples Housing. However, the MOPH will not be able to take advantage of this opportunity without increasing their staff capacity.

7. The principal public sector urban housing programs are the KPR home loan program, administered by the Bank Tabungan Negara (BTN) and Perumnas, and the Kampung Improvement Program administered by the Ministry of Public Works and local governments. In the KPR program, BTN uses deeply subsidized liquidity credits and contributions from the central government, mixed with a small amount (10 percent of resources) of Tabanas savings deposits to make home purchase loans at 5 percent or 9 percent, depending on the income level of the borrowers. Units financed by BTN are constructed either by Perumnas (the National Housing and Urban Development Corporation) or by pre-selected private developers. BTN has financed 195,000 units to date, including 88,500 units developed by Perumnas. A much smaller home loan program is administered by PT Papan Sejahtera (PTPS) which finances about 1,000 units per year.

8. There are two major problems with the KPR program. Firstly, the program is designed to provide most of its benefits to households who could afford to buy unsubsidized housing. 84 percent of recent non-Perumnas mortgages have been for amounts in excess of Rp 5 million. Perumnas loans have gone for much lower mortgages (96 percent of recent loans were under Rp. 3 million) but in neither case can it be shown that the income level of the borrowers were proportionate to the size of the mortgages because neither Perumnas nor BTN can accurately determine household incomes. Since applicants routinely under-report incomes, the program is serving a higher than necessary income-level. Secondly,

although BTN has made notable progress in its operations, it continues to have serious management problems, including: (1) inefficient accounting systems, particularly in its Tabanas program; (2) loan payment arrearages (as high as 30 percent in some branches); and (3) an inability to raise resources efficiently.

9. Perumnas has generally good management although it continues to have too large an unsold inventory because of its policy of allowing families to occupy its units at no charge while they accumulate required downpayments and because BTN financing is frequently slow in being approved for Perumnas applicants. Perumnas is now moving towards a policy of concentration of its efforts on large projects in the biggest cities, mostly on Java. Although this will make Perumnas more efficient, it will leave the geographic bulk of the country unserved.

10. The GOI is currently considering alternatives for raising BTN interest rates and increasing downpayment requirements. If approved, such proposals will reduce government subsidies and make it possible for other housing finance institutions to develop. But such changes will not improve the targeting of the program and may have the opposite effect.

11. The primary impediments to the expansion of PTPS loan volume are the comparatively low interest rates on BTN loans and controls on the maximum interest rate which PTPS can charge its customers. Because Central Bank officials feel compelled to keep PTPS interest rates below the market, they provide PTPS with shallow subsidy liquidity credits which are not enough, however, to make PTPS competitive with BTN. PTPS could be more productive if it were simply freed to operate unencumbered in the market place with the sole incentive of tax-exempt status on its bonds.

12. The Kampung Improvement Program (KIP) provides central government resources to upgrade the infrastructure in slum neighborhoods. This program was directed at 200 communities during the third five year plan (1979-84) and will be expanded to 400 cities during the current plan (1984-89). The program has been a considerable success, leading to improvement in the quality of lives of Kampung residents, partly as a consequence of individual and cooperative efforts by residents to make subsequent improvements. Occasional examples of poor design, inadequate attention to the operation and maintenance of installed infrastructure and lack of resident participation at the project planning stage have been criticized. Most importantly, local governments need to be stimulated to put more of their financial and management resources into local KIPs.

13. The largest public housing program in Indonesia is the transmigration program which is scheduled to provide 175,000 new housing units per year for transmigrants, mostly from rural Java, being relocated to the outer islands. Although the program continues to be much criticized as a consequence of its inefficient management among other things, there is some evidence that the lives of the rural landless poor are significantly improved by most transmigration projects.

14. Investment in housing provides a strong stimulus to local job creation. For example, an investment of \$100 million in low-cost, small, unfinished housing units in urban Indonesia can be expected to create an estimated 16,000 person-years of direct unskilled employment and 26,000 person-years of skilled employment, and an estimated 14,000 to 18,000 person-years will be added in the building materials industry. Such employment generation effects will be enhanced if wages are reduced, the ratio of skilled to unskilled laborers is reduced, smaller units are emphasized, land prices are reduced, high-rise development is avoided, and construction is undertaken largely by medium-volume and very small developers.

15. To meet the need for new jobs, capital must be guided into labor intensive investments. Investment in housing affects employment in seven ways: (1) by providing jobs in the construction, building materials, transport and related industries; (2) by stimulating the creation of local-serving jobs; (3) by providing the locus for home-based industries; (4) by drawing otherwise unproductively invested capital into the economy; (5) by increasing the educational capacity of household members; (6) by improving health; and (7) by creating demand for household appliances, home improvements and other housing-dependent goods and services.

16. On the basis of the preceding analysis, it is recommended that the GOI: (1) encourage the expansion of the role of the private sector including PTPS by increasing BTN interest rates; (2) allow and encourage greater competition in the mortgage market; (3) enhance the policy development role of the BKPN and the Ministry of Peoples Housing; (4) Increase the authority and capacity of Agraria to survey and register title to land; (5) grant exemptions of up to Rp. 5 million from the value added tax for home purchase transactions; (6) decentralize infrastructure financing; and (7) expand the supply of serviced urban land. These recommendations should be amplified through policy dialogue between AID and the GOI. In addition, technology transfer to assist BTN and Perumnas, among other organizations, should be encouraged.

## CHAPTER 1

### BACKGROUND OF THE SHELTER PROBLEM

#### 1. Population

In 1980, Indonesia's 13,000 islands supported a population of 147.5 million. The average rate of population increase between 1930 and 1960 was 1.5 percent, accelerating to 2.1 percent in the 1960's and to 2.3 percent in the 1970's. This was primarily a consequence of a greater decline in the mortality than in the fertility rate, although both were substantially reduced. By 1990, total population will be 183.5 million, increasing to 222.7 million in the year 2000.

Population growth has not been and will not be equally distributed. In urban areas, for example, the annual rate of growth during the 1970's was at least 4 percent, more than twice the 1.7 percent rural growth rate, and somewhat faster than the 3.6 percent urban growth rate of the 1960's. In addition, seasonal and circular migrants, who appear to be increasing in number, were rarely counted as urban dwellers in the 1980 census, resulting in an understatement of actual urban population. Although no definitive measure of this phenomenon is available, a study of West Java communities showed, at one extreme, that on the order of 90 percent of the male labor force in these villages worked for at least part of the year in other, usually urban, communities. It is plausible that roughly one-sixth of the urban workforce on Java are temporary migrants.

Leaving aside the ambiguities created by seasonal and circular migration, the formal view is that in 1980, 22 percent of Indonesia's population (32.5 million people) lived in urban areas. By 2000, that percentage will have increased to 40, and the urban population to 89.1 million. Thus while Indonesia's total population will increase by 75.3 million between 1980 and 2000, the urban population will expand by 56.65 million or three-quarters of the total. This will add 11.6 million new households to urban areas, an average of 578,000 per year. During the 1980's the annual average increment of new households will be 498,000.

The urban labor force grew even faster than urban population during the 1970's largely because the influx of single workers helped to decrease the dependency ratio from 3.9 in 1971 to 3.4 in 1980. However, the rural dependency ratio (3.0 in 1980) remained lower than the urban ratio because the labor force participation rate for those between the ages of 10 and 20 was higher (52.6 percent v. 41.4 percent) in rural than in urban areas. In addition, since it is likely that more urban workers support rural dependents than vice versa, the urban dependency ratio is probably understated.

The rates of natural population increase are lower in urban than in rural areas (1.88 percent vs. 2.12 percent). Lower urban fertility rates are no longer offset by lower mortality rates. Thus, the differential rate of population growth is attributable entirely to migration. Of the total projected increase in urban population between 1980 and 1990 (24.4 million), more than 70 percent (roughly 17.9 million persons) will be the result of net in-migration. Since migratory households are likely to be smaller on the average than resident households, the proportion of increase in urban households attributable to migration will be even higher than that for population. It is accordingly apparent that calculations of urban housing needs must be sensitive to real migration trends.

There are two primary reasons for rural-to-urban migration. On the negative side, increased labor productivity and higher levels of investment in fertilizer, farm machinery, etc., have drastically reduced the level of growth in agricultural employment. More positively, the natural tendency of manufacturing and service employers to locate in urban areas has resulted in large increases in urban employment opportunities. It is also sometimes suggested that differences in the amount and quality of public services available in urban and rural areas reinforces migration tendencies.

Among urban communities, growth rates also seem to vary as a function of the size of the city. As Table 1 shows, the nine largest cities have grown on the average at a faster rate than the 27 middle-sized cities which in turn have grown more rapidly than small communities.

TABLE 1

<u>Population Growth Rates by Size of City</u>			
<u>Size of City</u>	<u>Population Growth Rate 1970's</u>	<u>1980 Population-Cities of this Size</u>	<u>Number of Cities</u>
500,000 +	4.1 percent	15,600,000	9
100,000-500,000	3.8 percent	6,100,000	27
100,000-	3.2 percent	11,100,000	662

From this, it would appear that although even small cities are growing much faster than rural areas, urbanization in Indonesia continues to be weighted towards the largest cities.

It should be pointed out, however, that growth figures aggregated by size are not particularly explanatory. While some attempt has been made to explain how size might be related to growth rate as a consequence of economic efficiency, accessibility to markets, etc., it appears likely that other factors, such as whether or not a city has a port, its location with respect to other transport facilities such as major highways, its proximity to developed resources such as oil and natural gas and the ratio of current basic jobs to resident labor force are much more significant than size. Thus, for the purposes of growth management and projecting housing and infrastructure needs, it is important not to assume that size is the cause of growth and to look instead at local and national economic forces which account for historic growth rates. From this perspective, it is not surprising, for example, that middle-sized cities in the coastal areas on the outer islands have been growing at twice the rate of middle-sized inland cities on Java.

Finally, population growth rates vary from region to region. Although data on this subject are imperfect, Table 2 displays the results of one plausible analysis from which it can be concluded that urban growth on Java and the Eastern Islands is much slower than on Sumatera, Kalimantan and Sulawesi.

Of course differential growth rates between Java and, e.g., Sumatera must be considered with regard for the fact that Java, which comprises only 6.9 percent of the land area of Indonesia, already has 62 percent of the population. It is also apparent that while rural Java is losing population, Jakarta and the other big cities on the island are continuing to attract people at a high rate, albeit more slowly than some other parts of urbanized Indonesia.

## 2. Housing Supply

During the 1970's, the number of households in Indonesia increased from 23,844,000 to 30,263,000 while the number of dwelling units increased from about 22,039,000 to 28,387,000. About 3.4 million households were living in dwellings which also housed one or more other households. Roughly 1.5 million units were vacant. Multiple occupancies are somewhat higher in rural areas (around 15 percent of all households) than in urban areas (around 10 percent), perhaps in part because of changing attitudes of urban households towards extended family living arrangements. In any event, the high rate of multiple occupancies is likely to mean that some level of expansion in the housing supply would be absorbed by existing households if the units were affordable to the low-income families who probably comprise the great majority of such households.

TABLE 2  
POPULATION GROWTH BY PROVINCE\*

	1980 Census			Average Annual Growth 1971-1980 (Percent)	
	Total Population 000's	Urban Population 000's	% Urban	Total Population	Urban Population (est)
Aceh	2,611	233	8.9	2.9	
North Sumatra	8,361	2,127	25.4	2.6	
West Sumatra	3,407	433	12.7	2.2	
Riau	2,169	588	27.1	3.1	
Jambi	1,446	183	12.0	4.1	
South Sumatra	4,630	1,267	27.4	3.3	
Bengkulu	768	72	9.4	4.4	
Lampung	4,625	577	12.5	5.8	
<u>TOTAL SUMATRA</u>	<u>28,016</u>	<u>5,481</u>	<u>19.4</u>	<u>3.3</u>	<u>5.1</u>
DKI Jakarta	6,503	6,072	93.4	3.9	3.9
West Java	27,455	5,771	21.0	2.7	
Central Java	25,373	4,756	18.7	1.6	
D.I. Yogyakarta	2,751	607	22.0	1.1	
East Java	29,189	5,720	19.6	1.5	
<u>TOTAL JAVA</u> (JAVA EXCL. JAKARTA)	<u>91,270</u> (84,767)	<u>22,926</u> (16,854)	<u>25.1</u> (19.9)	<u>2.0</u> (1.9)	<u>(2.6)</u>
West Kalimantan	2,486	417	16.8	2.3	
Central Kalimantan	954	98	10.3	3.4	
South Kalimantan	1,218	485	39.8	2.2	
East Kalimantan	2,065	441	21.4	5.7	
<u>TOTAL KALIMANTAN</u>	<u>6,723</u>	<u>1,441</u>	<u>21.4</u>	<u>3.0</u>	<u>6.4</u>
North Sulawesi	2,115	355	16.8	2.3	
Central Sulawesi	1,290	115	9.0	3.9	
South Sulawesi	6,062	1,096	18.1	1.7	
South East Sulawesi	942	88	9.3	3.1	
<u>TOTAL SULAWESI</u>	<u>10,410</u>	<u>1,654</u>	<u>15.9</u>	<u>2.2</u>	<u>5.1</u>
Bali	2,470	363	14.7	1.7	
West Nusa Tenggara	2,725	383	14.0	2.4	
East Nusa Tenggara	2,737	205	7.5	2.0	
Malaku	1,411	153	10.8	2.9	
Irian Jaya	1,174	237	20.2	2.7	
<u>TOTAL EASTERN ISLANDS</u>	<u>10,517</u>	<u>1,341</u>	<u>12.8</u>	<u>2.2</u>	<u>3.6</u>
<u>TOTAL INDONESIA</u>	<u>146,935</u>	<u>32,846</u>	<u>22.4</u>	<u>2.3</u>	<u>4.0</u>

Source: World Bank 1984

A large proportion of both rural and urban households live in units which lack sanitary facilities and/or are constructed of impermanent building materials. In rural areas, 60 percent of all dwellings have no potable water supply, 80 percent have no private sanitary facility and 80 percent have walls constructed of organic materials.

Table 3 shows the prevalence in urban and rural areas of impermanent wall and floor materials.

TABLE 3

Housing: Material Used in House Construction in Kotamadya,  
Other Urban Areas and Rural Areas, 1978

	(Percentage Distribution)		
	Urban		Rural
	Kotamadya	Non-Kotamadya	
<b>Wall Construction</b>			
Masonry	41.7	30.1	15.3
Lumber	32.3	34.3	26.9
Bamboo	25.1	33.7	55.1
Earth	0.1	0.2	0.4
Other	0.9	1.6	2.3
TOTAL	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>
<b>Floor</b>			
Tile	28.9	12.7	1.9
Concrete	32.3	33.2	14.2
Lumber	14.0	21.3	19.9
Bamboo	1.2	5.8	11.4
Earth	23.1	21.1	51.4
Other	0.5	0.8	1.2
TOTAL	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Particularly in rural areas, of course, there is little point in describing any unit that fits into one or more of these categories as inadequate. Walls made of bamboo, for example, although they are more flammable and require more frequent maintenance, while perhaps providing less of a barrier to weather and insects than e.g. concrete blocks, are likely to be a popular and cost effective rural construction technique for the foreseeable future. The lack of water and sewer infrastructure is more serious because of the direct relationship between access to toilets and clean water on the one hand and morbidity and mortality rates (especially those associated with water-borne diseases) on the other. For this reason it is of some concern that 37 percent of the rural population in 1980 obtained drinking water from natural sources such as rivers, springs and rainwater. An additional 59 percent relied upon wells for drinking water. Given the lack of sewerage facilities, possibilities for contamination of well and natural water supplies are significant. This helps to account for the fact that although considerable progress has been made in reducing infant mortality and increasing life expectancy, those measures still show Indonesia trailing other countries in the region.

In urban areas, where proximity and other factors create greater fire and health hazards, both traditional construction techniques and inadequate infrastructure are of considerable concern. As cities develop, both market and political pressure to replace these units will increase, particularly as the underlying land becomes more valuable. This is likely to lead to the elimination of much of the least expensive urban housing.

One implication of this assessment is that the need for new urban housing will expand at a rate which is likely to strain existing housing and infrastructure production mechanisms. Nearly 500,000 new units will be required each year of the current decade to meet the needs of new urban households. Table 4 shows how this level of production might be achieved.

TABLE 4

Hypothetical Projection of 1984-89 Urban Housing Production

<u>Developer Type</u>	<u>1984-5</u>	<u>1984-9</u>
Private, unsubsidized, formal sector	60,000	300,000
Private, BTN-financed	32,000	160,000
Perumnas, BTN-financed	28,000	140,000
Rental Housing Program	5,000	25,000
Private, PTPS-financed	1,000	5,000
Informal sector	<u>372,000</u>	<u>1,860,000</u>
Totals	498,000	2,490,000

These projections may be optimistic for a number of reasons. In the first place, it is difficult to determine the actual level of new urban housing production by unsubsidized developers. One source has estimated unsubsidized private sector production (including private for-profit developers, cooperatives and institutionally provided housing such as that furnished by employers) to be only 10,000 units per year. Secondly, the estimates for BTN-financed units contemplate a doubling of their current loan output which they may not have the capacity to achieve. Thirdly, the informal sector projection was obtained simply by subtracting the total projected production of formal sources from the projected needs. The increasing pressures for formalization of housing production in at least the larger cities may make it difficult for the lower-income segment of the informal sector to operate as successfully as it has.

### 3. Poverty

Perhaps the most hopeful sign of Indonesian economic performance since 1970 is the reduction in the percentage of the population living below the poverty line. In 1971, 57 percent of the nation's population had incomes below this level. By 1980, that figure had dropped to 40 percent.<sup>19</sup> While the reduced economic growth of the last few years may have slowed this trend somewhat, it is likely that a significantly smaller percentage of Indonesians will be living in poverty in 1990 than in 1980. Nevertheless, poverty remains pervasive. The World Bank distinguishes between poverty, the condition of not being able to satisfy all of one's basic needs, and deprivation, the more serious state in which one is unable to satisfy nutritional needs. 3.3 percent of the population are deprived under this definition.

Poverty is not, of course, evenly distributed. Nor do the trends all favor increasing income homogeneity. For example, in 1970 the urban poverty rate of 50.7 percent was fairly close to the rural level of 57.1 percent. By 1980, however, the urban rate had declined to 19.7 percent while the rural rate declined to 44.6 percent, leaving it at more than twice the urban rate. Similarly, while Java declined from 65.0 percent to 46.9 percent, the rest of Indonesia improved from 43.2 to 28.0 percent. In general, then poverty is most prevalent in rural Java, while the urban outer islands have the lowest incidence of poverty.

Examination of provincial-level data (Table 5) shows that these generalizations gloss over areas of extreme poverty on Sumatra (Aceh), East and West Nusa Tenggara, Bali, Maluku, Southeast Sulawesi, and South Sulawesi. East and West Nusa Tenggara also have the highest incidences of deprivation in Indonesia (20.9, 44.4 and 13.5 percent, respectively).

Table 5  
People in Poverty and Incidence of Poverty,  
in Rural and Urban Areas by Province, 1980

Province	Rural Areas			Urban Areas		
	Rural Population (000)	People in Poverty (000)	Poverty Incidence (%)	Urban Population (000)	People in Poverty (000)	Poverty Incidence (%)
D.K.I. Jakarta				6,321	1,006	16.9
West Java	21,316	7,313	34.3	5,678	1,498	26.4
Central Java	20,387	12,595	61.8	4,705	1,935	41.1
D.I. Yogyakarta	2,131	1,465	68.8	596	169	28.2
East Java	23,224	13,714	59.1	5,656	2,134	37.7
<u>JAVA: TOTAL</u>	<u>67,058</u>	<u>35,087</u>	<u>52.3</u>	<u>22,958</u>	<u>6,802</u>	<u>29.6</u>
D.I. Aceh	2,333	222	9.5	228	3	1.1
North Sumatra	6,128	1,309	21.4	2,076	367	17.7
West Sumatra	2,935	431	14.7	425	39	9.1
Riau	1,553	233	15.0	578	51	8.8
Jambi	1,230	101	8.3	180	10	5.6
South Sumatra	3,289	429	13.1	1,244	188	15.1
Bengkulu	683	149	21.9	71	9	12.3
Lampung	3,936	1,862	47.3	558	181	32.5
<u>SUMATRA: TOTAL</u>	<u>22,086</u>	<u>4,739</u>	<u>21.5</u>	<u>5,361</u>	<u>847</u>	<u>15.8</u>
West Kalimantan	2,036	211	10.4	411	19	4.6
Central Kalimantan	839	110	13.2	95	5	4.7
South Kalimantan	1,602	216	18.5	430	38	8.8
East Kalimantan	712	105	14.8	469	53	11.3
<u>KALIMANTAN: TOTAL</u>	<u>5,189</u>	<u>642</u>	<u>12.4</u>	<u>1,406</u>	<u>114</u>	<u>8.1</u>
North Sulawesi	1,730	620	35.8	351	61	17.4
Central Sulawesi	1,144	347	30.3	113	15	13.7
South Sulawesi	4,894	2,269	46.4	1,082	256	23.7
South East Sulawesi	834	441	52.9	86	11	12.6
<u>SULAWESI: TOTAL</u>	<u>8,601</u>	<u>3,677</u>	<u>42.7</u>	<u>1,632</u>	<u>344</u>	<u>21.1</u>
Bali	2,083	841	40.4	358	94	26.3
West Nusa Tenggara	2,310	1,214	52.6	376	129	34.2
East Nusa Tenggara	2,493	1,480	59.4	204	47	23.1
Maluku	1,227	520	42.4	152	18	11.7
Irian Java	107	13	12.1	113	4	3.8
<u>Eastern Islands:</u>						
<u>TOTAL 1/</u>	<u>8,619</u>	<u>4,108</u>	<u>47.7</u>	<u>1,202</u>	<u>292</u>	<u>24.3</u>
<u>INDONESIA: TOTAL</u>	<u>111,553</u>	<u>48,251</u>	<u>43.3</u>	<u>32,559</u>	<u>8,400</u>	<u>25.8</u>

1/For total, poverty incidence in East Timor assumes equal to average for "Other Islands"

Source: World Bank, 1984

Per capita consumption data tend to reinforce the general pattern of poverty indices. On Java, rural consumption is less than half of the urban level. Other areas show similar, although smaller disparities. Assuming the average for all of Indonesia equals 100, the regions rank as follows:

(1)	Eastern Islands (including Irian Jaya)	77
(2)	Sulawesi	87
(3)	Java	97
(4)	Sumatera	116
(5)	Kalimantan	129

This order is similar but not identical to regional rankings for incidence of poverty:

(1)	Java
(2)	Eastern Islands
(3)	Sulawesi
(4)	Sumatera
(5)	Kalimantan

Although consumption and presumably incomes in urban areas are becoming more similar, the gap between rural and urban consumption widened through the 1970's, as shown in Table 6.

Table 6

Percent Change in Consumption  
by the Poorest 40 Percent of the Population  
in Urban and Rural Areas

Year	Java		Outside Java		Indonesia		
	Rural	Urban	Rural	Urban	Rural	Urban	Total
1970-76	2.3	5.8	2.7	3.5	2.4	5.0	3.1
1976-78	-3.2	3.7	-3.3	5.8	-3.3	4.5	-1.1
1978-80	13.4	-0.8	12.8	5.1	10.4	-0.9	8.4
1970-80	2.8	4.4	2.9	4.2	2.4	4.0	3.0

Average annual growth rates. The time intervals are 6.4 years for 1970-76, 2 years for 1976-78 and 1.5 for 1978-80.

Source: World Bank, 1984

#### 4. Employment

In 1980, nearly half the population over 10 years of age was in the labor force or economically active. However the labor force participation rates for those in the age category of 10-14 years of age was only 11.1 percent. Economic activity rates or labor force participation rates for this group are expected to decline as more children are retained for longer periods in the formal educational system. Rural sector participation rates for males of all ages (70.6 percent) were higher than in the urban sector (60 percent).

The estimated construction work force in 1980 was 1.57 million persons or 3.1 percent of the employed workforce. The agricultural sector employed the majority (55 percent) of the workforce while manufacturing accounted for 8.5 percent.

Open unemployment in Indonesia seems to be primarily a phenomenon associated with urban youth. In 1977 and 1978, measured open unemployment rates for both males and females in the rural sector (1.9 and 1.2 percent, respectively) were much lower than the corresponding rates in the urban sector (6.7 percent of males and 4.6 percent of females. New entrants to the workforce have experienced high rates of unemployment at all levels of education except at the university level. The pattern of unemployment for different age groups at various levels of education indicates that urban youth are not readily absorbed into the workforce. Available data shows that urban male unemployment rates for those without formal education drop sharply with age; the rate for the age group 10-14 and 15-19 were 22.7 and 29.7 percent respectively, but for those aged over 20 the rate drops to below 4 percent. This pattern, although less pronounced, is observed for males with elementary education as well. Greater education usually implies entry to the labor force with higher wage expectations and therefore a longer waiting period before employment. If the 25-29 year age group is considered, for urban males without schooling, unemployment rates fall off to 2.2 percent, but it is higher with increasing educational level up to senior high school where it reaches 12.5 percent. A similar trend is observed for urban females.

During the 1970's, the total labor force increased from 41,311,000 (1971) to 50,458,000 (1980), an average annual increase of 2.2 percent, compared with a population growth rate of 2.3 percent. During the 1980's the labor force growth rate will average 2.7 percent, while population grows at about 2.0 percent per year. The urban-rural discrepancies are as apparent here as for other variables. That is, while rural jobs increased by 1.6 percent per year, rural population increased by 1.7 percent during the 1970's. In urban communities on the other hand, jobs increased by an average of 5.7 percent while population, including net migration increased by 4.0 percent.

In the rural areas, many laborers work seasonally in non-agricultural occupations including construction. In this sense, the construction labor supply is volatile. However, nearly two-thirds of the construction workers were recorded as having worked at least 35 hours during the week prior to the census day in 1980 (BPS 1983 p. 84, 85).

45 percent of all construction workers had completed a primary education, compared with a third of the total workforce. About 15 percent of construction workers had gone beyond primary school. Roughly 12 percent of the total workforce had completed secondary school.

There are two major causes of declining contributions of rural areas to employment. Firstly, the modernization of agricultural methods, including the use of fertilizer, insecticides, migration, farm machinery intercropping and multiple harvests have increased labor productivity. In addition, the introduction of these techniques has tended to even out labor requirements throughout the seasonal cycle, so that formerly temporary employment has become more permanent. This reduces the number of jobs, if not the person-years or the total wage bill, sustained in agriculture. As a consequence, although agriculture accounted for 76 percent of rural jobs in 1971, it absorbed only 8.5 percent of new rural employment in the next decade. Of the 6 million new entrants to the labor force from agricultural households during the decade, only about 60 percent (3.7 million) found rural employment, and only about one ninth found agricultural jobs.

Secondly, prior to 1982 the government's Inpres program was an important contributor of primary jobs in the rural construction sector. On the order of 2.7 percent of the labor force was supported by direct and indirect Inpres employment by the end of 1981. Subsequent declines in the level of real expenditures in that program have reduced the program's employment capacity by perhaps one quarter. Unless the primary school construction program scheduled to end in FY85 is replaced by projects with equal employment impact, further declines are foreseeable.

The problems in rural areas were mirrored by employment opportunities in the cities. While in 1971, 13 percent of total employment was urban, 41 percent of all new jobs created in the 1970's were in cities. Most (perhaps two-thirds) of this growth occurred in relatively low-paid services, with the balance primarily in manufacturing.

Although the rate of growth of the total labor force will decline during the remainder of the century (from 2.7 percent per annum to roughly 2.1 percent), the employment generation trends will continue to favor urban areas, probably to an increasing degree as the Indonesian economy becomes more and more urbanized.

### Other Donors

Both multi-lateral and bi-lateral agencies are actively investing in Indonesian development, reflecting both Indonesia's importance to donors and the level of confidence of such agencies in the soundness of the governments macro-economic policy. The Intergovernmental Group on Indonesia (IGGI), comprising the principle multi-lateral and bilateral aid agencies for Indonesia pledged a total of \$2.45 billion for FY 1984-5, an increase of 14 percent over last year's 2.1 billion. Multi-lateral investment is led by the World Bank which plans to provide \$1.2 billion during FY 1984-5 followed by the ADB at \$500 million and the UNDP at \$38 million. Bilateral aid is dominated by Japan (\$321 million) followed by the U.S. (\$116 million), and the Netherlands (\$52 million). Australia, West Germany and France have committed smaller amounts.

The World Bank commitment is significantly increased from the US \$850-900 million level of last year. Bank funding during Repelita III has emphasized agriculture and energy (33 and 17 percent of total loans, respectively. Transmigration, Kampung Improvement, manpower training, urban water supply, and land surveying projects have also been supported.

Urban sector assistance by the Bank since the beginning of the Urban I project in 1974 has been a small part (roughly 5 percent) of overall funding, with an initial emphasis on Jakarta gradually broadened to include, e.g., 400 cities in the KIP. The first urban development project comprised a KIP program covering 2000 hectares (approximately 900,000 persons) in Jakarta and a 7,200 unit sites and services program. The second project, approved in 1976 extended the Jakarta KIP for 3 years to cover an additional 3,000 hectares (1,200,000 people) and added a new KIP in Surabaya (375 hectares; 200,000 persons). Urban II also included the training of community health workers. The Bank's third urban project added three additional cities to the KIP and expanded the scope of activities to include solid waste management, drainage and land registration.

On the strength of KIP success during the first three projects, the fourth urban project expanded Bank support for KIP to nine provincial capitals in support of government efforts to greatly expand the reach of the overall program to include 200 cities and towns. Urban IV also included technical assistance for the Bank Tabungan Negara (BTN) and Perumnas, the two principle urban housing agencies in the government, and a major urban mapping program covering 100 cities.

In the Bank's fifth urban program, the emphasis shifted back to the major cities (Surabaya, Ujung Pandang, Semarang and Surakarta) where KIP, drainage and solid waste disposal activities are receiving support. For the near future, World Bank urban programs are expected to be maintained at something like current funding levels. A housing sector loan of \$125 million is now under consideration, with BTN the likely client.

The second largest donor presence in Indonesia is the Asian Development Bank (ADB). During Repelita II, ADB emphasized energy and transportation infrastructure (48 percent of all resources), agriculture (26 percent), industrial development (10 percent) and social services (9 percent). Urban sector programs received less than 2 percent of ADB resources, primarily for the Bandung Water Supply Project. During Repelita III, their focus shifted towards agriculture (45.7 percent) and urban programs, including water supply (12.2 percent).

The urban activities supported by ADB are similar to the World Bank's projects. KIP, sites-and-services, water supply, drainage and solid waste management are the primary program elements. ADB has focused on Bandung, Medan, Central Java, and South Sumatera.

The third major multi-lateral agency in Indonesia is the United Nations. The United Nations Development Program (UNDP) is providing more than \$20 million per year in grant funds. Agricultural development takes about 42 percent of the annual budget, while small-scale industrialization receives about 15 percent. The most significant urban effort supported by the UNDP is the National Urban Development Strategy Project (NUDS) which is designed to assist the government in establishing a process and policy framework for national urban development. A second round of funding has been requested to continue this project for an additional three years.

Among the numerous bilateral donors, the Japanese and the Dutch are most important. The Japanese International Cooperation Agency (JICA) provides about \$40 million per year in technical assistance grants while the Overseas Economic Cooperation Fund (OECF) provides on the order of \$260 million per year in soft loans (3 percent, 20 years). Only about 3 percent of JICA funds have gone to urban projects, mostly for studies of sectoral or regional development, including a \$750,000 study of low-cost housing in Jakarta. OECF funds have gone mostly to power projects (38 percent), transportation (33 percent) and water resources development (12 percent). Future interests of OECF are likely to include urban development and small- and medium-scale industrial projects.

Total foreign assistance to urban development is approximately US \$110 million, about three quarters of which comes from the World Bank and ADB. This total is more than half the public funds allocated annually to urban development during Repelita III.

## CHAPTER 2

### MACROECONOMIC CONSIDERATIONS

#### Summary

Following the international recession of 1980, Indonesia experienced major economic setbacks in 1982 and 1983. Decreased demand for oil coupled with lower oil prices caused government revenues to fall precipitously and a dramatic increase in the trade deficit. By March 1983, the situation was critical and the government adopted a series of economic reforms to control the deterioration of the Indonesian economy. Chief among these measures were: a 28 percent devaluation of the rupiah; partial deregulation of interest rates; consolidation and rationalization of the tax system; major budget cuts; rephrasing of planned capital investments, and elimination or reduction of subsidies.

As a result of the reduction in public expenditures, the central government's deficit fell from 5.1 percent of GDP in 1982/83 to 2.4 percent in 1983/84. The devaluation in the rupiah and the increase in domestic interest rates increased the flow of foreign exchange into the Indonesian economy and bolstered domestic savings. Consequently, in 1983/84 Indonesia reported a \$1.1 billion trade surplus, net foreign exchange reserves amounted to \$8.4 billion (equal to 4.5 months of imports), and time deposits increased by 50 percent in the last six months of 1983.

As a result of these capital inflows, in 1983/84 the economy rebounded. Overall GDP growth was 5 percent, a marked improvement over the 1982 growth of only 0.1 percent. This growth is partly attributable to increased oil and liquid natural gas (LNG) production. Although growth in the non-oil sectors declined slightly overall, devaluation and a large increase in exports to the U.S. resulted in a remarkable recovery in agriculture and marked increases in the export of manufactured goods.

While these measures should provide the basis for future growth, in the short term they are also expected to have a deleterious effect on employment, income and growth. As a result of inflation, limitation on capital investment and the deregulation of interest rates, credit will become more expensive.

While GDP growth was 0.1 percent in 1982, the labor force has been increasing by 2.7 percent per annum in the 1980's, an increase from an average of 2.2 percent in the 1970's. From 1985-1990, an expected 1.8 million persons will be added to the Indonesian labor force each year. Thus, the labor force will increase at the same time that economic growth is expected to slow from the almost 8% average growth of the 1980's. As a consequence, while unemployment is not expected to increase, underemployment, which is already widespread, could grow, particularly among urban educated youth, if the economy is not substantially restructured.

Despite the potential inflationary effects of devaluation, the rate of inflation has increased only moderately, from 9.7 percent in 1982/83 to 12 percent in 1983/84. In 1983, per capita income was estimated to be \$510.

Indonesian economic targets, deemed realistic by the World Bank, call for an average 5 percent growth rate to be fueled by increased agricultural production and non-oil exports during the remaining half of the decade. However, substantial borrowing in the near future will be required to allow Indonesia to diversify its economic base in order to fuel this growth and reduce its dependence on oil revenues. Such increased borrowing is not expected to have a dramatic effect on the debt servicing capacity of the Indonesian economy. The debt service ratio is expected to increase to 25 percent in 1985, but decline gradually to 23 percent by the end of the decade. With a continued prudent borrowing policy, maintenance of a comfortable level of external reserves to guard against temporary strains on liquidity, concerted efforts at export promotion, and discipline in the public investment program, Indonesia should be able to retain its present high standing in international capital markets.

Other efforts the Indonesian government must continue in order to sustain economic growth include: channeling of imports of capital goods to productive investments, restructuring the financing of public enterprises so that they are self-sufficient, mobilization of medium-term capital in private financial markets, and encouragement of capital investments in labor intensive industries in order to increase employment.

From the standpoint of the shelter sector, the need to reduce central government expenditures in the short-term argues for a drastic reduction in budget allocations for current subsidy programs, and for a gradual transfer of responsibility for infrastructure financing to local government, the private sector, and to consumers.

### Background

From 1974 to 1979 real GDP increased an average 7 percent per annum, and continued to grow by an average of 6.5 percent from 1979 to 1982. This expansion was inspired by the rapid rise in oil prices. Higher oil revenues accounted for two thirds of government revenues. Increased government capital expenditures in turn created an environment which stimulated private sector investment, leading to steady expansion in agricultural and manufacturing outputs.

In 1980, the situation began to deteriorate, but its full impact was not felt until 1982 when depressed oil demand, lower oil prices and depressed consumer demand from the industrialized countries began to take its toll. In 1981/82 the growth in oil exports came to a virtual halt and the following year registered a net decline. Non-oil export earnings also fell from \$6.2 billion in 1980 to \$3.9 billion in 1983 as the recession deepened in the industrialized countries. Despite a sharp reduction in the growth of non-oil imports, current account deficits equaled \$7.8 billion or 8.4 percent of GDP in 1983.

## Reforms

Faced with a projected deficit of \$10 billion in 1984, the government implemented a series of structural adjustments. The most far reaching was the devaluation of the rupiah in April, 1983 by 28 percent. Since that time the rupiah has been pegged to the currencies of its major trading partners, principally the U.S. The current strength of the U.S. dollar in international trading, however, has weakened Indonesia's competitive trade position in non-U.S. markets.

The central government has also tightened its belt. The 1983/84 and 1984/85 budgets were cut back and the growth in public expenditures has slowed to about 10 percent per annum (flat in real terms). Planned public capital investments totalling \$21 billion have been rephased. Budgetary subsidies are estimated to have fallen 40 percent in nominal terms from 1981/82 to 1983/84. Subsidies on food were largely eliminated while subsidies on petroleum, and fertilizer were reduced.

In the banking system, credit ceilings were abolished, the Bank of Indonesia restricted its subsidized credit and interest rate limits were eliminated. While these measures have served to increase time deposits by 50 percent in the last six months of 1983, they also have had some deleterious effects as well. Higher lending rates have increased the cost of borrowing. The increase in time deposits, while enhancing the overall liquidity of financial institutions, has also caused a shortening in loan terms, leading to a mismatch between the terms of deposits and the need for medium term credit.

Taxes were also revamped. A new income tax law went into effect in January, 1984 and a value added tax was approved although implementation has been delayed. It is intended that revenues collected from these simplified tax laws will compensate for the decline in oil export revenues. Overall, non-oil tax revenues are expected to increase from 6 to 10 percent of GDP.

In 1983, collection of non-oil tax revenues had increased as a result of renewed vigor in collections and reforms. Over the next five years, the government hopes to double it's non-oil tax earnings.

In FY 1984, these measures resulted in dramatically reducing the projected current accounts deficit from \$7.8 billion to \$4.3 billion and the trade balance registered a year-end surplus of \$1.1 billion. The World Bank projects that Indonesia's current account deficit will fall to \$3.6 billion by 1986/87. Total foreign exchange requirements from 1984-1987 are projected at \$18.3 billion. Of this, the World Bank estimates that Indonesia will need \$4.5 billion per annum in new loans. Total reserves are projected to rise marginally to \$8.7 billion by 1986/87, equal to 4.5 months of imports.

### Sectoral Growth

The agricultural sector grew 3 percent in 1983, up from 1.8 percent in 1982. The spurt was due primarily to better than expected rice production. Secondary food crops, notably corn and cassava, also did well. Non-food exports (rubber, coffee, tea and palm oil) recorded significant increases in volume and value.

Oil production, which equaled 21 percent of aggregate GDP, grew by 6 percent in 1983, while LNG grew by 7.5 percent. Excluding LNG, the manufacturing sector grew by 3.2 percent. Recovery in manufacturing, however, has been uneven. Plywood, tire, glass and vehicle assembly did well while other industries, such as foot wear, batik, yarn, thread and basic chemicals remained weak.

World Bank projections indicate that exports overall are expected to expand 5.6 percent per annum between 1984 and 1985 and by 4.4 percent from 1986-1990. Oil and LNG exports will continue to form the basis of export revenues, contributing 70 percent of total export receipts in 1984/85. Non-oil exports are expected to grow by 6 percent per annum from 1986-1990.

### Inflation and Income

In 1983, per capita income was estimated to be \$510. The better than expected rice crop and the increased value for other non-food exports helped ameliorate the effects of the reduction in government subsidies on oil, food and fertilizer on consumer income while the inflationary and income effects of devaluation were partially offset by increases in social sector spending. Low growth in prices for paddy, fresh fish and vegetables helped dampen the overall rate of inflation but the shortage of cooking oils and spices gave rise to a 10 percent increase in the index of food prices and in some areas a 51.2 percent increase in cooking oil. While inflation increased from 9.7 percent in 1982 to 12 percent in 1983, the rural economy seems to have suffered least from the inflationary developments. Prices for nine essential commodities only rose by 7 percent and 10 percent in Java and in the Outer Islands.

### Employment

Because of the lack of reliable employment statistics, it is impossible to deduce sectoral growth in employment. There is some evidence to suggest that the agricultural sector has a limited capacity to absorb more workers. The manufacturing sector has grown at a slightly faster rate than the agricultural sector and new jobs can be created if the government encourages the formation of labor intensive enterprises and eliminates excessive regulatory constraints.

In prior years, the Government's INPRES programs contributed significantly to employment generation and capital formation through various school construction and other public facilities efforts. Between 1970 and 1981/82, INPRES had created, directly or indirectly, about 1.5

million man-years of employment or 2.7 percent of the labor force. However, the pace has now slowed and with current and projected limits on government spending, its impact on income and employment in rural areas will diminish even more in the future.

While open unemployment is low, less than 2 percent in 1980, underemployment was significant. 40.8 percent of the rural labor force and 18.3 percent of the urban labor force were classified as underemployed in 1980 (working two thirds or less of normal working hours).

Although in the long term, significant employment gains will not materialize in the agricultural sector, it is expected to account for 50 per cent or more of total employment. In the past, the main sources of employment growth were services, which accounted for 60 percent of the total number of new jobs, and industry, which contributed approximately 15 percent. In 1980, the manufacturing sector employed only 8.4 percent of the labor force. Government GDP growth targets are for 9.5 percent growth in manufacturing, 3 percent growth in agriculture and 4 percent growth in mining.

Table 7

Rates of Inflation, 1979-1983

(Percentages)

	<u>Jakarta</u>	<u>Indonesia*</u>
1979	22.3	21.8
1980	11.3	16.0
1981	5.8	7.1
1982	8.7	9.7
1983	11.1	12.0

---

\* Based on a survey of 17 cities.

Source: World Bank

Table 8

Summary of Central Government Operations,  
1979/80 - 1983/84

(Billions of Rupiahs)

	1979/80	1980/81	1981/82	1982/83	1983/84 (Est.)
Tax revenue	6,885	10,567	11,981	11,475	14,782
Of which: oil/LNG	(4,635)	(7,676)	(8,732)	(7,663)	(10,398)
Nontax revenue	187	316	336	436	520
Grants	137	122	118	71	93
Total revenue and grants	<u>7,209</u>	<u>11,005</u>	<u>12,435</u>	<u>11,982</u>	<u>15,395</u>
Recurrent expenditure	4,239	6,169	7,383	7,281	8,441
Development expenditure	2,545	3,828	6,409	7,730	8,697
Total expenditure and net lending	<u>6,784</u>	<u>9,997</u>	<u>13,792</u>	<u>15,011</u>	<u>17,138</u>
Surplus/deficit (-)	<u>425</u>	<u>1,008</u>	<u>-1,357</u>	<u>-3,029</u>	<u>-1,743</u>
(Percent of GDP)	(1.3)	(2.2)	(-2.5)	(-5.1)	(-2.4)

Source: IMF

Table 9

Summary of Balance of Payments,  
1979/80 - 1983/84

(Million of U.S. Dollars)

	1979/80	1980/81	1981/82	1982/83	1983/84 (prelim.)
Export of Goods	17,495	21,876	21,145	18,118	19,649
Import of Goods	-11,968	-15,887	-19,968	-20,626	-18,573
<u>Trade Balance</u>	5,527	5,989	1,177	(2,508)	1,076
Non-Factor Services	-1,237	-1,702	-2,604	-1,715	-1,400
<u>Resource Balance</u>	4,290	4,287	(1,427)	(4,223)	(324)
Factor Services	-3,106	-3,165	-3,442	-3,705	-4,080
Net Transfers	52	76	67	105	95
<u>Current Account Balance</u>	1,236	1,198	(4,802)	(7,823)	(4,309)
Current Account Deficit as Percent of GDP				8.4	6.0

Source: World Bank and IMF

Table 10

Projected Summary of Balance of Payments,  
1984/85 - 1989/90

(Millions of U.S. Dollars)

	1984/85	1985/86	1986/87	1988/89	1989/90
Export of Goods	21,283	22,698	26,542	35,379	44,832
Import of Goods	-19,260	-20,666	-23,334	-29,474	-37,555
<u>Trade Balance</u>	1,978	2,032	3,208	5,905	7,277
Non-Factor Services	-1,409	-1,291	-1,247	-1,418	-1,559
<u>Resource Balance</u>	569	741	1,961	4,487	5,718
Factor Services	-4,360	-4,823	-5,544	-6,997	-8,408
Net Transfers	100	110	120	130	150
<u>Current Account Balance</u>	(3,691)	(3,972)	(3,463)	(2,380)	(2,540)
Current Account Deficit as Percent of GDP	4.6	4.5	3.6	2.0	1.8

Source: World Bank

## CHAPTER 3

### THE HOUSING DEVELOPMENT INDUSTRY

#### 1. Background of the Construction Industry

The modern construction industry in Indonesia has had only a short history. The pre-independence industry was dominated by six Dutch firms which imported expertise, materials and capital from Western Europe. Following independence, virtually the entire sectoral establishment repatriated, leaving Indonesia without the economic or professional basis for a functioning industry. Modest subsequent contributions of aid from the U.S. and others, which were used mostly to hire foreign developers, did little to establish indigenous contractors. With the arrival of political stability in 1965, coupled with increasing oil revenues, and international aid, foreign contractors returned to Indonesia in large numbers, threatening to re-establish the hegemony of foreign expertise and capital that had prevailed in colonial days. A series of interventions (See e.g. Article 19, Presidential Decree 14A) designed to encourage the transfer of skills and technology has been somewhat successful in supporting the development of domestic contractors, but there continues to be a high level of dependence on foreigners, in part because of links between foreign assistance and the use of foreign firms. In 1980, government officials estimated that 35% of all construction work (by value) was going to foreign firms and that the percentage was probably increasing slowly. Recent deferrals of major development projects and reprogramming of funds into smaller, labor intensive projects should have the effect of reducing that figure.

In the housing portion of the industry, the situation is reversed. The wholly indigenous informal sector produces a substantial majority of all housing, using little in the way of imported materials. The formal sector sometimes uses imported capital and, to a lesser extent, materials but the industry remains domestically controlled.

At the end of 1980, it was estimated that roughly 70 percent of the value of all construction in Indonesia was directly procured by the public sector. In recent years, and particularly during the last year, this dominance has been somewhat reduced as a result of reductions in real development expenditures by the central government. It is nevertheless apparent that most of the productive capacity of the industry is geared to meeting government standards and processes. As builders, developers, suppliers, architects and engineers develop efficient means of satisfying public sector requirements, other techniques, whatever their cost-effectiveness, may not survive the standardization of the industry. This puts procurement agencies in the position of responsibility for innovation, a role in which the public sector has had very little success.

In the housing market, although government domination is less extensive, BTN is the standard-setter (see Chapter 4). Although not a procurement agency in the strict sense, BTN's commitment process involves the review of project plans for conformity to what are virtually specifications, including minimum floor and lot areas and criteria for design, materials and site plans. Thus, the 36m<sup>2</sup> minimum floor area requirement imposed by BTN on developers other than Perumnas is a consequence of a judgement by BTN that nothing smaller could be marketed to households at the income levels BTN is supposed to reach with its non-Perumnas program. While lenders must make such judgements, the problem in Indonesia is that BTN has no competitors who might have different opinions.

BTN establishes its financing limits on the basis of its own estimates of developer costs and desirable profit margins. Since the depth of BTN subsidies insures a market for every BTN-financed unit, developers have no incentive to pass on savings which result from fortuitous market circumstances or their own relative efficiency. Thus, BTN purchase price maximums become minimums as well.

One example of this was provided by a developer of BTN-financed projects who located a supply of hollow blocks made from a local substance similar to, but more structurally efficient and half the price of cement. After some amount of testing and considerable delays, BTN was convinced to accept houses built of such blocks, which saved the contractor roughly 2-1/2 percent on his total development costs. Since BTN didn't take these savings into account in their financing limits, and since the developer's market was assured, he had no reason to reduce sales prices by any portion of the 2-1/2 percent.

## 2. Informal Development

As elsewhere, new housing development in Indonesia is split between a currently predominant informal sector and a smaller, almost exclusively urban, formal sector. In rural areas, the distinction between the two modes is primarily a consequence of financing. Perhaps 90 percent of rural dwellings are constructed and purchased without resort to institutional finance. By using locally available, typically organic, materials and committing large amounts of their own labor and savings, even very poor housing consumers are able to provide affordable, although frequently not safe or sanitary, shelter for themselves. This distinction is obviously not absolute. Many home purchase transactions involve both formal and informal financing, and many formally purchased houses are informally expanded or rehabilitated. Intra-family borrowing, the conversion of uninvested assets (including especially gold), and local money lenders are the most frequently employed sources of such capital as is required by the informal sector.

- 25 -

In urban areas, more is required to house the poorest households than the opportunity for them to apply their own labor and capital to the construction of rural-style housing. For one thing, even organic building materials may not be available except at a high cost. In urbanized Bali and Java, for example, thatch is frequently a more expensive roofing material than tile. Secondly, the order-of-magnitude higher costs of land in urban areas means that low-income households must generally find shelter on land which they don't own, at least at the time of initial occupancy. In Jakarta, for example, it is estimated that 75 percent of new housing is built on "informally" subdivided land. But higher urban land values also mean that the owners of vacant land are likely to be more vigilant than rural owners about evicting or exacting compensation from uninvited squatters.

The urban informal sector is also inhibited, particularly in the largest cities, by the increasing, albeit inconsistent, attempts of government agencies to enforce zoning, building and occupancy codes. Thus, although the construction of impermanent dwellings on public rights-of-way and other land not tenured to the occupants continues to be an important source of shelter for the poorest urbanites, the tendency is, and has been for many decades, for the low-income informal sector to operate primarily at the urban fringe where development is neither planned nor serviced. Of course, even peripheral land is likely to be too expensive to permit the urban immigrants who settle there to assume title at market rates.

This roughly concentric pattern of development began in colonial times when migrants to Batavia (now Jakarta) who were not permitted to settle within the central city neighborhood occupied by the Dutch, developed *Kampungs* on surrounding padi fields. These communities were not planned with any regard for long-term urban development or the availability of infrastructure. They were essentially rural villages in an urbanizing setting.\* The process has continued since independence with the modern difference that the relatively expensive padi land is now developed primarily by the formal sector while dry (*darat*) land is subdivided and sold or leased to low-income migrants. *Kampungs* now provide well over half of Jakarta's housing stock. Regional planning officials estimated in 1980 that three quarters of new housing in Jakarta and its environs was being provided in such a fashion.

While this method of housing the tide of new households rolling into Indonesia's cities has the not inconsiderable virtue of proven feasibility, the long-term costs of installing infrastructure in already developed communities will be high, particularly when the basic services provided by the *Kampung Improvement Program* are no longer adequate. In addition, the public sector agencies who will eventually be responsible for providing infrastructure are missing the opportunity to amortize that burden from the point of initial development, even in those peripheral communities which are predominately occupied by middle- and upper-income households. Because much of the underlying land has been the subject of unrecorded subdivision, raising revenues through property taxes, assessments or other property-based revenues will be complicated.

\*See Nick Devas "Financing Urban Land Development for Low-Income Housing". *Third World Planning Review*, V.5, No. 3, August, 1981. P. 215

However, since a good deal of development is occurring on land which has exceptional development problems (e.g. flooding and water supply) pre-emptive landuse planning could reduce the long-term costs of providing urban services. The problem, however, is that a public indication in the form of a zoning designation or the like that a piece of land cannot be legally developed lowers its value considerably, which makes it all the more attractive to shelterless low-income households who as a practical matter, may gain a certain amount of security of tenure from the restrictions on legal development.

There are two primary conclusions to be drawn from this analysis. The first is that in urban areas, the informal sector is not defined simply by the absence of formal financing, although for middle and upper income housing that remains the most descriptive characterization. For low-income households, the most essential characteristic of informal housing is that it is built on land which is "off the market" because of legal or practical impediments to its development or because it is publicly owned. Land which, although marketable, is unserviced is also likely to be less expensive depending on its speculative value. In any event, the most important function of that portion of the informal sector which serves low-income households is to locate sites whose public or private owners will, at some political or economic price, tolerate development without important regulatory interference.

Secondly, to some considerable extent the formal sector subsidizes informal housing development because of its greater susceptibility to taxes on real property. This has been a minor consideration in Indonesia because of the trivial role of property taxes in public resource mobilization. Reduced reliance on oil revenues combined with accelerating infrastructure investment needs and the decentralization of taxation will gradually increase the importance of these indirect subsidies, however, as central and local government collection of property-based taxes becomes more efficient.

### 3. Formal Development

The distinction between formal and informal development is clearest at the outset of the development process when the formal developer initiates a project by establishing control of a site. Since site-purchase options seem not to be used in Indonesia, obtaining site control usually means direct purchase or some sort of joint venture. The latter may involve the contribution of the site by the previous owner in exchange for the right to share in future profits, equity investments by silent, frequently foreign, partners, non-institutional loans, or various hybrids of these approaches. Seller financing of unimproved land appears to be rare.

Because of previous problems associated with speculation in land, state commercial banks, as a matter of policy, stopped financing the purchase of undeveloped sites. There is no legal prohibition on such financing, however, and at least one state bank indicated its willingness to finance the "right deal".

To some extent the unavailability of institutional site purchase financing reflects the uncertainties of the development permit and registration processes but, given the generally appreciating price of land in urbanized Indonesia, it seems likely that lender reluctance to finance site purchases is as much a matter of institutional inertia as prudence. It may also be a result of government-imposed interest rates. The current policy of the state commercial banks is to make construction loans at 18 percent. The principal amounts of such loans do not exceed 75 percent of hard construction costs other than site development work. If the state banks were free to increase interest rates, they might also be able to justify more highly leveraged loans. The commercial validity of this proposition is suggested by the fact that private commercial banks will sometimes make construction loans for up to 75 percent of total project costs which, on a project with high land costs, might be twice the leveraging permitted by state banks. For this additional risk, those private lenders willing to make such loans charge 21 to 24 percent interest rates. However these loans are currently available only after the developer has obtained site control.

The developers evaluation of potential sites can be greatly complicated by title problems. The ultimate security for the financing of most formal sector real estate transactions in Indonesia as elsewhere is an interest in real property, including land and improvements. Fundamental to the conveyance of such a security interest is the demonstration by the borrower that she/he has a legally enforceable interest in the property which is at least equal to and inclusive of that transferred. In Indonesia, unambiguous documentation of real property interests is frequently difficult to obtain for historical and administrative reason.

Title to land in Indonesia can, as a matter of law, derive from either adat (traditional) or statutory authority. Traditional titles known as Hak adat are perpetual and complete, and therefore analogous to the fee simple title of Anglo-American law. However, adat law is mostly unwritten and titles based upon it are correspondingly uncertain. Statutory titles include the following:

- Hak Pengelolaan - Perpetual right to use and develop land
- Hak Guna Bangunan - Right to build on land
- Hak Pakai - the right use and occupy land
- Hak Milik - perpetual ownership of land, similar to fee-simple title.

A fifth primary right in land, the right to cultivate (hak guna usaha), is important primarily in rural areas. An array of secondary rights are also recognized. In the Kampung Improvement Program, for instance, 3-6 year temporary land title certificates were issued to households whose prior rights were doubtful.

Registration of titles at the request of property owners began in Indonesia in 1960 upon enactment of the Basic Agrarian Law. Compulsory registration efforts administered by Agraria, the central government agency responsible for surveys and registration of land throughout Indonesia, began in 1977 and were augmented in 1980. Resistance by property owners and other practical problems have impeded this effort, so that a great deal of both urban and rural land remains unregistered. For example, it has been estimated that in Jakarta in 1980, only about one-third of the land was covered by registration certificates. Registration is frequently resisted by property owners because it might subject them to taxation and, for owners of large amounts of land, because they fear the political consequences of disclosure. Even where registration is actively pursued, the process can take as much as 6 months which, for developers seeking title that gives them the right to develop, can be extremely onerous.

Title uncertainties are also a problem in the transmigration program. The shifting cultivation system employed by many of the indigenous people in the areas to which transmigrants are being relocated has been based upon the notion that clans (sometimes called marga groups) have hereditary rights to extensive and imprecisely defined tracts of land. Transmigrants occupying land under the impression that they have clear title to it have been frequently surprised by assertions of prior rights by the members of such groups.

An additional obstacle is the lack of definitive cadastral surveys upon which metes and bounds descriptions can be based. Without such surveys, registration itself is inadequate to insure a subsequent purchaser or a mortgage lender that clear title has been established. Perumnas conducts title searches before beginning development. If title is not registered, Perumnas conducts its own survey, registers it and takes title. PTPS hires outside counsel to establish title at a cost which it passes on in the form of "notary fees" to its borrowers. It is also worth passing mention that the lack of reliable surveys creates other problems in the development of infrastructure as where the use of inconsistent survey data result in mismatching collector or distribution systems with trunk lines, and the like. The World Bank (Urban IV) has supported mapping and topographical surveys in 100 cities which will assist in reducing the pervasiveness of this difficulty.

Until these problems are overcome, formalization and deepening of the mortgage finance system will be retarded and borrowers will probably pay a risk premium in the form of higher interest rates. The development of title and mortgage insurance and a secondary mortgage market all would be facilitated by more extensive and reliable recordation practices.

Public sector acquisition of real property for public purposes is further hampered by a 1961 statute that permits expropriation only by Presidential Decree. Accordingly, land purchases are nearly always negotiated transactions. From the standpoint of Perumnas, which purchases significant amounts of urban land for housing development, this has not precluded the acquisition of adequate amounts of real estate but it has increased their site and administrative costs while reducing their locational choices.

A second site selection consideration for the formal sector developer is whether or not required local and provincial government approvals can be obtained within a reasonable period of time for a prospective site. Provincial Governors have the authority to stop any major housing projects in the interests of provincial development. More specific use, density, site plan, design and engineering controls are imposed at the local level. This process includes use and site plan approvals by the cognizant Bapeda, a certificate of title registration (including a metes and bounds description) from Agraria, and a letter of recommendation from the Bupati for the Kabupaten (a type of local government) in which the project is located. Although the time taken to obtain these approvals varies greatly with the quality & size of the project, the appropriateness of the site and the level of attention of the responsible public officials, a 6 to 12 month range would include most projects with only ordinary problems. If the opportunity costs of the capital invested in the site is 20 percent per annum and if land costs are 30 percent of total development costs, such a review period would increase project costs by 3-6 percent. In fact, of course, land costs depend on the proximity of required infrastructure and a variety of other factors which might expand the range from 1 percent to 10 percent. Where foreign investors are involved, the project is subject to an additional 3-6 month delay to obtain approval of the central government's Investment Board. In practice, this requirement seems to be inconsistently observed, however. In addition, the developer's opportunity costs are usually passed on to consumers, at least in part, by pre-approval marketing in which customers are asked to make substantial deposits to secure their rights to purchase a unit in the proposed project.

A third site selection standard is the availability of infrastructure, including roads, water, sewers, storm drains, and electricity. Because a relatively small proportion of undeveloped land is serviced with any, much less all of these facilities, site prices are dramatically affected by access to infrastructure. In parts of Jakarta, Surabaya and Denpasar, for example, reports from developers, including Perumnas, of ten-fold increases in land prices as a consequence of the extension of roads and water to previously unserved areas were reported as common. It is likely that such increases will soon change the economics of housing development in larger urban areas to favor medium and high rise construction over the currently more favorable high-density but low-rise configurations.

#### 4. Tax Implications of Housing Investment in Indonesia

By the adoption of a fundamentally revised tax code (Laws No. 6, 7 and 8, 1983) last year, the GOI unfavorably affected the investment climate for housing. Because the effective date of the most important of the new provisions has been postponed as a consequence of a variety of implementation difficulties, there may be a short-term stimulative effect as prospective home-buyers attempt to complete purchase transactions prior to imposition of the new code.

Under previous law, purchasers of homes in Indonesia were subject to sales tax on the excess of the transaction price over Rp 5 million. The new law would substitute a value-added tax of 10 percent for the sales tax and would eliminate the exemption. The new law will therefore have two major effects from the standpoint of the housing market:

- (1) It will eliminate an important incentive for developers to keep home prices below Rp. 5,000,000.
- (2) It will increase the effective cost of the lowest priced housing.

On the other hand, of course, the new tax measure, if coupled with improved collection techniques, should enhance the revenues available for, e.g., construction of residential-serving infrastructure.

Not surprisingly, the delay in implementation of the law has encouraged various interest groups to request modification of the value-added provisions insofar as they affect real property transactions. In particular, Real Estate Indonesia (REI), an association comprising mostly large developers, has submitted a proposal to the Ministry of Finance to exempt the first Rp 10 million in the value of houses from the value-added tax. Another possibility is to reduce the tax rates for housing. The law (Chapter IV, Article 8) permits the government to reduce the rate to not less than 5 percent by regulation; it is not clear, however, that that authority can be applied selectively to housing or any other goods or services. The "Elucidation" of the law published by the State Secretariat presents the contrary opinion "... a similar tariff must be enforced on all delivery of taxable goods and services". More importantly, the government recognizes that granting any exception to the full application of the tax would likely open the flood gates with the risk of vitiating the new tax regime.

In addition, it appears to be the GOI's intention to establish a sectorally neutral tax policy in order to allow greater market influence on resource allocations. This neutrality is not complete, however, as agrarian activities, including agriculture, forestry, fishing, cattle-breeding and the like are not subject to the value-added tax. Small-scale entrepreneurs are also exempted, as are certain "service" organizations including non-profit educational, health and religious entities.

In addition to the value added tax, Indonesia also has an income tax. In order to stimulate savings, interest on time and other savings deposits (including Tabanas and Taska accounts) has been indefinitely exempted from income tax by regulation (12/31/83). Although this exemption is indefinite, it is explicitly described as temporary in the Elucidation (No. 37, 1983). On the other hand, interest paid on home purchase loans by individuals is not deductible.

Property taxes are also likely to increase in the major metropolitan areas. In Jakarta for example, the metropolitan government has the authority to collect two kinds of taxes on real property. The first, called IPEDA, is a typical ad valorem levy. The second, called the Betterment Tax, is an attempt to tax appreciation resulting from public investment. IPEDA is collected inconsistently, in part as a consequence of the fact that the ownership of much of the potential tax base is difficult to determine because of registration problems described above. The betterment tax is not collected at all, for reasons which are primarily political, although the technical problems would be formidable as well.

The enormous infrastructure investments which will be required in urban Indonesia for the foreseeable future will almost certainly persuade local governments to increase their tax powers and the efficiency with which they collect taxes. Although this is desirable from the standpoint of the national development strategy, it will have the effect of increasing the cost of homeownership.

On the other hand, imposition of a reasonably efficient property tax system may decrease the willingness of the owners of undeveloped land to keep it off the market. If this effect is significant, it could increase the supply and lower the cost of sites for residential development, if it is combined with infrastructure development.

Finally, the GOI has eliminated the tax-free status of interest on bonds issued by PTPS and purchased by pension funds. The effect of this change is to raise the cost of bond revenues to PTPS from roughly 16 to 19 or 20 percent. Because the PTPS Board of Directors, which is dominated by public enterprise representatives, will not allow PTPS to charge the kind of interest that such a cost of funds would require, PTPS is currently excluded from the bond market. As a consequence, they have requested and received a commitment from the central bank for liquidity credits which may cost the government more than the loss of tax revenues which would have resulted from exemption of the bonds.

In sum, then, the overall effect of recent and prospective changes in tax laws, regulations and collection will be to increase the purchase prices of houses fairly dramatically. For houses which cost less than Rp 5 million, the increase may be as much as 10 percent purely as a consequence of the value added tax.

##### 5. Construction Financing

From the standpoint of formal sector developers in Indonesia, housing finance has three dimensions. At the outset, the developer needs capital to purchase and prepare sites and for other predevelopment costs, including permit processing. Secondly, she/he needs construction financing for the proposed dwelling. Finally, the developer needs to know that the purchasers of the homes she/he is building will be able to

get permanent financing. In reality, of course a commitment to permanent financing is usually a pre-condition to construction financing because the general shortage of long-term loans in Indonesia makes construction lenders unwilling to accept the risk that prospective purchasers will find and qualify for permanent loans.

Construction financing in the formal sector comes primarily from the five state commercial banks, private commercial banks, deposits and progress payments by prospective purchasers and equity investments by the developer and other investors. Each of the state banks indicated that they make such loans only at 18 percent; however, one developer indicated that it is possible to obtain 15 percent loans if one's performance history and financial position justify it.

There does not appear to be any shortage of construction financing at 18 percent for developers fortunate enough to obtain commitment letters from BTN or PTPS. About 10 percent of state bank lending goes to construction loans of any kind, probably less than half of that to residential construction. Private commercial banks will also make construction loans but at rates in the 21 to 24 percent range. Because actual construction time is short for low-cost housing financed by BTN and PTPS, and because construction financing is not drawn down until just before construction begins, 18 percent interest rates (up from 13 percent three years ago) don't have the final cost impact they would have in a market that demanded finished units and therefore longer construction periods. For example, a 3 month term at an 18 percent rate for a 75 percent loan-to-hard-cost principal amount on a project for which unfinanced land costs were 30 percent of total project costs would add 2.4 percent to project costs, compared with 1.7 percent for a 13 percent loan.

One considerable impediment to the availability of financing for small contractors is the inadequacy of the financial records which many of them maintain. Access to commercial financing is obviously unlikely unless contractors can present persuasive financial statements and project prospectuses. To some degree this problem can be attributed to the reluctance of contractors to disclose information which might be used to establish their tax liability. As the tax system in Indonesia becomes more efficient and accepted, this should be less of a problem.

## 6. Labor Supply

The conventional wisdom among housing planners and policymakers in Indonesia is that the construction industry is suffering as a consequence of a shortage of skilled laborers in virtually all of the crafts. The solutions proposed for this include an array of training programs and certification of skills levels in each of the crafts. The implementation of some of these proposals is being supported by the World Bank, the International Labor Organization and others. While these efforts will, if they achieve their objectives, increase the productivity of construction labor, they will also reduce labor requirements and thereby

render the construction sector less absorbent of unskilled workers. Although productivity increases achieved under market conditions do more good than harm, subsidized increments to productivity through training programs in the construction industry may be untimely given prospective needs for new jobs.

In any event, the practical realities of the labor market in Indonesia do not leave the contractor completely free to choose the skills levels of his/her workers. In large part this is because the supply of workers is dominated by what is called the "mandor system". Although some mandor's are permanent employees of contractors, in the traditional and still dominant pattern, the mandor is a labor subcontractor who is engaged to perform one or more tasks at an agreed price. The mandor hires a labor force, supervises the work, receives payment from the contractor and pays his workers. All materials are provided by the contractor. Nearly all unskilled work and a large part of the skilled work of the construction industry is done through mandors.

From the contractor's standpoint, this system is useful because it adds some level of certainty to labor costs by, in effect, spreading the risk of the venture to mandors. On the other hand, the system has been much criticized as offering little opportunity for young workers to advance in the industry and because it is said to be exploitative. It is generally agreed, for example, that mandors are not overly concerned about labor regulations or the provision of training to their workers. But it is not obvious that eliminating mandors would change the conditions of employment for unskilled workers. Construction labor is a very low prestige occupation in Indonesia and is unlikely to attract or retain highly motivated workers on a permanent basis unless relative wage rates in the industry increase more than can be reasonably expected in the near future.

## 7. Cooperatives

In a country in which the concept of gotong royong (literally: "lifting together", an indigenous concept of mutual self-help applied to diverse but mostly agricultural activities) is so pervasive, the cooperative movement ought to have found fertile soil. In rural agricultural communities, cooperatives have played an important role with considerable direct assistance by the government. The fundamental administrative unit in the Indonesian scheme is the KUD, or village level cooperative through which most government assistance to cooperatives is channeled. The Ministries of Cooperatives and Agriculture play the biggest roles in the central government.

Cooperatives have played a minor part in housing since the law on cooperatives was promulgated in 1967, although savings cooperatives, to which most government employees belong, have been sporadically involved in housing schemes. This is perhaps because even in rural areas the shelter problem is primarily financial rather than labor in character.

Since the rural cooperative movement has acquired little financial expertise, cooperative credit facilities remain under-developed. Nevertheless, a number of recent developments may enhance the possibilities for cooperative housing finance and development.

Most importantly, the establishment in 1981 of the Perusahaan Umum Pengembangan Koperasi (PKK) has done much to facilitate cooperative finance. The PKK was merged with the pre-existing but mostly ineffectual LJKK to guarantee loans made to coops by banks. In FY 82-83, PKK concluded guarantee agreements worth Rp 101.6 billion for 974 coops on Rp 126.3 billion in bank loans. If this concept were extended to rural housing loans it could be an important encouragement to the development of rural mortgage facilities. It would also be an interesting experiment in mortgage insurance which is otherwise non-existent in Indonesia.

A second possibility is presented by the Yayasan Koperasi Perumahan (Yakapi) in Surabaya, the last of a large number of Yakapi established in Javanese cities some years ago of which all but the Surabaya organization have failed. The Surabaya Yakapi makes 6 year loans to its members for a loan fee (no interest) for up to 50 percent of the purchase price of homes. Although the initial Yakapi model did not prove able to survive declining household incomes during the recession, the Surabaya approach might be replicable in other cities.

Finally, a new program is being developed by the Labor Federation of Indonesia to provide housing for the members of certain unions on sites close to their jobs. This would create union-provided as opposed to employer-provided housing, although employers might be asked to sell or give land to such projects. The Labor Federation is negotiating with BTN to handle the financing and with a pension fund (to which most union workers are subscribed) for loans. Union membership are said to be generally low-income. The Federation itself has little management capacity. Their role to date seems to be merely to broker the arrangements. As they see the scheme, local unions would set up cooperatives which would be the primary borrowers. Funds would flow from the pension fund and BI (liquidity credits) through BTN to the coops for approved housing projects.

#### 8. Special Problems of Small Contractors

Small contractors have the same essential business problems as large and medium-volume contractors. They must find sites, obtain land use approvals, organize financing, labor and materials, and market their products. In the highly competitive and risky business of residential development in Indonesia, more than 10,000 and perhaps as many as 30,000 entrepreneurs identify themselves as construction contractors. The very great majority of these are small, that is, have an annual volume of less than Rp 100 million.

To some extent of course, small contractors are small because they have not developed satisfactory solutions to the problems which plague all contractors. Those that have the entrepreneurial skill to keep these problems manageable become large and the remainder stay small if they survive at all. The reality is not quite that simple in Indonesia, however. This is because so much development is procured by the government which sets the standards discussed above. Even in the residential sub-sector where government involvement is less, a large developer has a considerable edge vis-a-vis small developers in the competition for BTN commitments for take-out financing. This advantage might be said to result from five factors:

(1) Small contractors are unable to specialize their management functions. In-house lawyers, accountants, designers, and engineers are generally out of the question for small enterprises. To some extent this problem can be overcome by specialization if the small contractor is willing to narrowly define his or her product line. Such specialization may be inconsistent with the opportunities presented by the marketplace, however, and accordingly difficult to maintain. In any event, services which are not available in-house must either be dispensed with or purchased outside, which, in the latter case will be more expensive and probably less convenient than in-house expertise.

(2) The problems faced by small contractors in getting construction financing have been noted above. To the extent that contractors are unwilling to accurately portray their financial condition to potential lenders, of course, this problem will remain insoluble. If the tax reforms currently being implemented reduce tax avoidance behavior, however, there may be a great deal of interest among small contractors in acquiring formal financial management training, including instruction in the preparation of financial statements and project prospectuses.

(3) Few small contractors can afford the capital investment required to purchase machinery. While the introduction of machines into the construction process reduces labor-intensiveness and therefore should not be subsidized, where a contractor's competitiveness on a particular project is negatively affected by the unavailability of machines, there ought to be a market mechanism to provide such access. The obvious device is leasing. Commercial banks, for example, could set up leasing subsidiaries specializing in construction equipment.

(4) Access to government officials, which is critical to obtaining land use and development approvals and to approvals for financing, is a difficult problem particularly for small contractors located outside of Jakarta. The solution to this problem cannot from a practical standpoint, be to increase such contact, but rather to decrease the discretion of officials in the application of project approval standards and to decentralize housing finance institutions.

## CHAPTER 4

### PUBLIC SECTOR INSTITUTIONS AND POLICIES

#### 1. Organization of the Public Sector

The most salient characteristic of the organization of the public sector in Indonesia is its centralization. Not only are the great bulk of revenues collected and dispersed from Jakarta, but the most important provincial and local government positions are central government appointees. While arrangements of this sort are hardly unusual in the developing countries, Indonesia's position as the fifth most populous nation in the world, compounded by the difficulties of communication among even the more developed of its 13,000 islands, can exacerbate the problems of centralized project planning and development.

The Ministries of Public Works, Finance, Home Affairs, and Bappenas are represented on a sub-cabinet group known as the Steering Committee on Urban Affairs and a corresponding staff body called the Working Group on Urban Affairs. From the standpoint of national economic development, the dominant ministries are Finance and Bappenas (Badan Perencanaan Pembangunan Nasional, or the National Development Planning Council). Bappenas and the Ministry of Finance collaborate on the production of five-year development plans known as Repelitas (Rencana Pembangunan Lima Tahun).

Housing and infrastructure program implementation and a fair amount of policy development are performed by the Ministry of Public Works. The recent elevation of the Ministry of Peoples Housing (MOPH) from the status of a junior ministry within Public Works to that of a State Coordinating Ministry may provide more of a focus on housing policy development. The Ministry of Home Affairs, which is responsible for supervision of regional governments, the Ministry of Transmigration, which is constructing a good deal of migrant housing and related infrastructure, and the Ministry of Interior are also important actors in the development and implementation of programs, policies and plans for housing and infrastructure.

The term "ministry" is used to cover several kinds of government organizations in Indonesia. "State Ministries" are those that are represented in the cabinet. "Junior" Ministries are located within other Ministries, and are therefore the functional equivalents of Directorates General (see infra). "Coordinating" Ministries, such as the Ministry of People's Housing and the Ministry of the Environment, generally do not operate programs or have responsibility for regulatory enforcement, project approvals, or the like. Their role, with minor exceptions, is to ensure that other ministries implement government policy in a consistent fashion. Such ministries accordingly have small staffs, usually borrowed from other agencies. For example, the slightly more than 100 positions allocated to the MOPH come mostly from the Ministry of Public Works. Because they neither control money nor regulate development, the power of Coordinating Ministries depends mostly on the personal influence of their Ministers and other high-ranking officials.

A variety of public and quasi-public agencies with housing and infrastructure responsibilities surround the ministerial edifice. On the financial side, Bank Indonesia functions as the central bank under the de facto control of the Ministry of Finance. The five state-owned commercial banks, the national housing bank (Bank Tabungan Negara), various development banks, and, to a lesser extent, P.T. Papan Sejahtera, are all controlled by the Ministry of Finance, both directly and through Bank Indonesia.

On the housing development side, Perum Perumnas (the National Housing Development Corporation) is supervised by the Ministry of Public Works. The MOPH is also represented on the Perumnas Supervisory Committee. Perumnas maintains provincial offices which work closely with the local offices of Public Works. Infrastructure development is handled directly by the Ministries or at the local level (see below).

Public services are ostensibly provided in three ways: by the local offices of central government ministries; by local government agencies; or "co-administered" by central and local units. Services provided by local offices of ministries are called "deconcentrated", while those provided by local governments are described as "decentralized". Co-administration (tugas perbantuan) is statutorily defined as the provision of services by local governments under the direction of central government ministries. In reality, most services and projects are to some extent co-administered, in part because of the Governor's coordinative responsibilities.

The local government departments provide services such as health, roads, sewers and the like to the extent that local governments have or share responsibility for such activities. In addition to these in-house agencies, both central and local governments can provide services through public enterprises which are operationally independent of the government. Such enterprises are commonly used to provide electricity and water.

## 2. Housing Policy Development in Indonesia

In general, housing policy in Indonesia is made in the context of housing program design which, in turn, is determined in most important respects as a part of the development of the national budget. In this process, the Ministry of Finance and Bappenas play the dominant roles, although program and policy proposals frequently originate in the Directorate General of Cipta Karya, in the Ministry of Public Works, the Ministry of Transmigration, or the Ministry of People's Housing. Budget proposals, called DIPs, are forwarded by the Ministries simultaneously to Bappenas and Finance during the summer. These two control Ministries review them jointly and incorporate approved projects into a draft budget which is sent by the President to the Parliament in January. Approval by Parliament (in February) is largely a formality.

Following approval of the budget, Finance sends approved DIP's to the Ministries responsible for implementation. Receipt of the approved DIP authorizes the implementing agency to request funds from the Treasury at the beginning of the fiscal year in April.

In theory, at least, there is also a non-budgetary process for developing housing policy and programs in Indonesia. The National Housing Planning Board (BKPN), formerly the National Housing Authority, was established to provide a high level forum for housing issues. The Board, which is currently chaired by the Minister of Public Works, comprises eight ministers (Bappenas, Finance, Peoples Housing, Interior, Home Affairs, Environment, Transmigration, and Health) in addition to Public Works. The President Director of Bank Indonesia also sits on the Board. In spite of this impressive representation, the Board has met only rarely (once or twice per year) and with an agenda which is limited by the natural reluctance of its members to expose their programs and policies to scrutiny beyond what is otherwise required.

As a consequence of its elevated status, the MOPH is in a position to play a greater role in the development of housing policy. It has already been agreed that the Minister of Housing will take over the chair of the BKPN from the Minister of Public Works, with the consequence that Housing staff will have the opportunity to play the central role in the development of housing policy.

Although the Ministry of Housing has capable and experienced personnel, many of them do not have housing backgrounds. In addition, the fact that most housing staff are assigned there by other ministries makes their tenure in the Ministry of Housing uncertain. Although there is no sign that this situation has been demoralizing, it may prove difficult in the long run to develop and keep a staff with housing policy experience.

The elevation of the Ministry of People's Housing does not, in the short term at least, imply a reduced role for either Bappenas or the Ministry of Finance. The Government appears likely to continue to make housing policy at a very high level. To the extent, however, that the Housing Minister can broaden the agenda of the BKPN, increase the frequency of its meetings, and secure the attendance of the Ministries of Bappenas and Finance, his influence and therefore that of his Ministry will increase.

BTN, Perumnas and PT Papan Sejahtera, although they are the principle implementers of urban public housing policy, appear not to have any formal and little informal role to play in policy development. Moreover, there does not appear to be much importance attached by central government policy makers to explaining policy rationales, with the predictable consequence that there is not always uniformity of objectives between those who make policy and those who implement it.

### 3. Current Housing Policies

The development of current housing policy by the central government began in 1974 with the publication of Repelita II. The plans, programs and policies approved there were based upon five not always explicit assumptions:

- \* Homeownership rather than rental tenure should be encouraged by public action.
- \* The market should be segmented on the basis of consumer household income in order to allow the tailoring of programs to the varying needs of households with different income levels.
- \* Within each segment, except for that comprising consumers with the highest incomes, competition would be unnecessary if not counterproductive because the government would control the planning, financing and production processes.
- \* In order to improve the quality of housing available to all but the wealthiest households, the government will deeply subsidize home purchases.
- \* Government employees and households displaced by government actions should be given priority in subsidized housing programs.

Although each of these policies has been eroded to some extent by the winds of economic and political circumstance, they continue to inform all of the major public housing efforts. Some discussion of the rationale for each of these policies is required as the basis for evaluating current approaches by the government to the shelter sector.

Homeownership has three important advantages. Perhaps most noteworthy is that homeowners are more likely than renters to invest their own labor and money into maintenance and renovation, so that owner-occupied housing is less likely than rented units to become a public health or safety problem. Secondly, owner-occupants tend to form a stable and relatively dependable social force which helps to provide durability to the communities in which they live. Thirdly, from the standpoint of housing consumers, an owned dwelling is a store of wealth which is likely to inflate in value at least as fast as the general rate of inflation.

On the other hand, the government's exclusive concentration on ownership, reinforced as it is by a similar focus of the formal private sector, has reduced flexibility in the market. Considering how important circular migration is to the current economy, for example, there must be a substantial demand for rental units which is currently being met by the

informal sector. In response to similar problems of civil servants who are transferred more or less temporarily to Jakarta or other administrative centers, the construction of rental units has been added to the Repelita IV program array.

The market segmentation policies present considerable technical as well as policy problems. The segmentation adopted during Repelita II divided consumers into five groups on the basis of percentiles of household income. For each of the lowest three groups, one or more programs were developed, as follows:

Lowest Income	0-20th	KIP
Low Income	21-70th	BTN/Perumnas core houses
Moderate Income	71-90th	Low-cost houses
Middle Income	90-98th	No assistance
High Income	98-100th	No assistance

Thus, 90 percent of Indonesia's households were thought to be unable to purchase market-rate housing or to be otherwise deserving of housing subsidies. In addition, the design and implementation of the programs to provide subsidies have resulted in benefits being distributed in roughly inverse proportion to income. Thus, the occupants of KIP areas receive the smallest per capita subsidy while "moderate" income households, on the average, receive the greatest.

Segmentation is effective in urban Indonesia in the sense that private sector developers and lenders have made no noticeable attempts to expand market share in ways that would be competitive with subsidized programs. Representatives of the small number of commercial banks which are providing mortgage loans have indicated, for example, that they are happy for now to confine themselves to upper income borrowers. One minor wrinkle in the system was introduced when PT Papan Sejahtera (PTPS) a quasi-public housing finance lender was added to the arena with a 70-90th percentile focus. If PTPS were allowed to develop it would become active in the uppermost portion of the market segment occupied by the government's low-cost houses program in which the Bank Tabungan Negara makes deeply subsidized loans to moderate and low income households.

The fundamental policy question presented by this approach is whether confining public and, in effect, private lenders to certain income groups leads to the most efficient and/or socially useful (e.g. equitable) allocation of housing expenditures. The answer in Indonesia seems to be in the negative for a variety of reasons which are explored below.

The technical question is whether it is possible for the income eligibility screening implied by the segmentation to be successfully implemented. While the answer to this question is not altogether certain in the abstract, the institutions responsible for implementing housing programs in Indonesia have yet to discover any credible method of ensuring that beneficiaries for any of their programs have appropriate income levels.

At the time these policies were developed, well over half of Indonesia's population lived below the poverty line. It is perhaps understandable, then, that a government that wanted to promote homeownership among such a poor population would assume the need for deep subsidies. Some of the difficulties caused by this approach are explored in the next chapter.

## CHAPTER 5

### PUBLIC SECTOR PROGRAMS

#### 1. Background

The most important urban housing institutions in the public sector are the Bank Tabungan Negara (BTN) and Perusahaan Umum Perumahan Nasional (Perumnas). These agencies were established by the government during Repelita II and reached full flower during Repelita III as oil revenues became increasingly available for the deeply subsidized program they were charged to administer. They are responsible for the homeownership loan program which is one of the government's two important urban housing efforts. The second is the Kampung Improvement Program administered by the Ministry of Public Works and local agencies and generally regarded as Indonesia's most successful urban program.

Repelita IV also includes a new rental housing program which is projected to produce 25,000 units during the plan period. Neither the program design nor the agency which will have responsibility for this program has been selected.

The Transmigration Program is administered by the Ministry of Transmigration and is the country's biggest housing scheme. Housing units produced through this vehicle are located mostly in rural areas.

Each of these programs, except the rental program, and the institutions charged with their administration, are discussed below.

#### 2. Bank Tabungan Negara

The Bank Tabungan Negara was established in 1968 (Law No. 20, 1968) as the first government-owned savings bank. In 1974, as part of the development of an institutional framework for delivering the housing subsidies contemplated by Repelita II, the Minister of Finance appointed BTN to act as the national home loan bank to make below market rate ("KPR") loans to the purchasers of low-cost housing developed by Perumnas (see infra.) and by private developers. Through FY 1983-4, BTN had financed the purchase of about 107,000 non-Perumnas units and 88,500 Perumnas units, for a total of 195,500 dwellings. About three-quarters of BTN's financing (by value) has gone to non-Perumnas units. Table 18 shows BTN's historic and projected activity rates. The sources of the funds BTN uses to finance these units are 3 percent long-term liquidity credits provided by the Bank Indonesia (90 percent) and Tabanas savings deposits (10 percent). BTN finances Perumnas units from central government budget allocations.

Interest on earnings from Tabanas accounts is tax-exempt. The ostensible cost of these funds to BTN exceeds 15 percent currently, although if BTN's administrative overhead costs were completely allocated it would be somewhat higher. Tabanas operations currently account for 50 percent of BTN overhead while providing 14 percent of its resources. With this mix, BTN's weighted average cost of funds is 2.8 percent, about 17 percent below the market for taxable bonds. Tables 11 and 12 summarize the quantitative performance of BTN.

TABLE 11

SUMMARY OF BTN'S FINANCING ACTIVITY, PERUMNAS AND NON-PERUMNAS

	Number of Perumnas Units	Total Perumnas Mortgages (Rp)	Average Mortgage Value (Rp)
1975/76 thru			
1978/79	250	489,360,000	1,957,440
1979/80	3,769	7,317,240,000	1,941,427
1980/81	7,015	11,651,050,000	1,660,877
1981/82	27,572	39,600,660,000	1,436,264
1982/83	36,826	49,508,690,000	1,344,395
1983/84	13,107	22,719,720,000	1,733,404
1984/84 (proj)	20,622	39,320,872,238	1,906,744
1985/86 (proj)	57,752	121,130,099,643	2,097,418
1986/87 (proj)	40,756	94,030,616,691	2,307,160
1987/88 (proj)	41,801	106,085,758,886	2,537,876
1988/89 (proj)	65,392	182,552,473,375	2,791,664
Total	314,862	674,406,540,834	2,141,912

	Number of Non-Perumnas Units	Total Non-Perumnas Mortgages (Rp)	Average Mortgage Value (Rp)
1975/76 thru			
1978/79	2,742	5,725,510,000	2,088,078
1979/80	6,115	15,992,750,000	2,615,331
1980/81	13,526	46,275,430,000	3,421,221
1981/82	22,218	95,846,840,000	4,313,927
1982/83	28,713	142,270,225,000	4,954,906
1983/84	33,991	183,072,855,000	5,385,921
1984/84 (proj)	16,000	89,803,152,000	5,612,687
1985/86 (proj)	36,000	222,262,801,200	6,173,967
1986/87 (proj)	36,000	244,489,081,320	6,791,363
1987/88 (proj)	36,000	268,937,989,452	7,470,500
1988/89 (proj)	36,000	295,831,788,397	8,217,550
Total	267,305	1,610,508,422,369	6,024,984

	Total Units Financed by BTN	Perumnas as % Of Total	Non-Perumnas as % Of Total
1975/76 thru			
1978/79	2,992	8.4%	91.6%
1979/80	9,884	38.1%	61.9%
1980/81	20,541	34.2%	65.8%
1981/82	49,790	55.4%	44.6%
1982/83	65,539	56.2%	43.8%
1983/84	47,098	27.8%	72.2%
1984/84 (proj)	36,622	56.3%	43.7%
1985/86 (proj)	93,752	61.6%	38.4%
1986/87 (proj)	76,756	53.1%	46.9%
1987/88 (proj)	77,801	53.7%	46.3%
1988/89 (proj)	101,392	64.5%	35.5%
Total	582,167	54.1%	45.9%

Source: BTN, Perumnas, and NCSI projections and estimates

TABLE 12  
Distribution of BTN Mortgages by Value

Value/Mortgage Rp Million	Up to 1980		1981		1982		1983		Total		Cumulative Percent of Total Value
	Units	Amount Rp Billion	Units	Amount Rp Billion	Units	Amount Rp Billion	Units	Amount Rp Billion	Units	Amount Rp Billion	
I. Perumnas											
1.0	3,846	4.8	2,686	2.8	8,612	7.8	2,689	2.6	17,833	18.0	
% total	(41.7)	(28.6)	(11.5)	(8.2)	(23.9)	(16.5)	(19.5)	(11.9)	(21.7)	(15.0)	(15.0)
1.0-2.0	4,652	9.7	13,559	15.6	22,231	25.6	8,462	13.0	48,904	63.9	
% total	(50.4)	(57.7)	(58.1)	(45.5)	(61.7)	(54.0)	(61.4)	(59.6)	(59.4)	(53.1)	(68.1)
2.0-3.0	320	1.0	6,444	13.9	2,296	4.9	2,128	4.6	11,188	24.4	
% total	(3.5)	(6.0)	(27.6)	(40.5)	(6.4)	(10.3)	(15.4)	(21.1)	(13.6)	(20.3)	(88.4)
3.0	407	1.3	649	2.0	2,884	9.1	515	1.6	4,445	14.0	
% Total	(4.4)	(7.7)	(2.8)	(5.8)	(8.0)	(19.2)	(3.7)	(7.3)	(5.4)	(11.6)	(100.0)
Total Perumnas	9,225	16.8	23,338	34.3	36,023	47.4	13,794	21.8	82,380	120.3	
Cumulative Perumnas	9,225	16.8	32,563	51.1	68,586	98.5	82,380	120.3			
II. Non-Perumnas											
2.5	5,485	6.6	1,120	1.6	2,137	3.5	80	0.2	8,822	11.9	
% total	(28.6)	(12.1)	(5.7)	(1.9)	(7.6)	(2.6)	(0.3)	(0.2)	(9.6)	(3.0)	(3.0)
2.5-4	9,182	23.0	6,242	15.6	2,112	5.3	1,377	4.8	18,913	48.7	
% total	(47.9)	(42.2)	(31.5)	(19.0)	(7.5)	(3.9)	(5.6)	(3.7)	(20.7)	(12.1)	(15.1)
4.5	2,237	8.9	4,974	19.9	7,227	28.9	3,484	15.7	17,922	73.4	
% total	(11.7)	(16.3)	(25.1)	(24.3)	(25.8)	(21.3)	(14.2)	(12.0)	(19.6)	(18.2)	(33.3)
5-6	999	5.0	4,023	20.1	5,332	26.7	5,800	31.9	16,154	83.7	
% total	(5.2)	(9.2)	(20.3)	(24.5)	(19.1)	(19.6)	(23.7)	(24.4)	(17.7)	(20.8)	(54.1)
6-7	154	0.6	2,455	17.2	6,643	39.9	6,032	38.7	15,284	96.4	
% total	(0.8)	(1.1)	(12.4)	(21.0)	(23.7)	(29.3)	(24.6)	(29.7)	(16.7)	(23.9)	(78.0)
7	1,117	10.4	977	7.5	4,534	31.7	7,729	39.2	14,357	88.8	
% total	(5.8)	(19.1)	(4.9)	(9.2)	(16.2)	(23.3)	(31.5)	(30.0)	(15.7)	(22.0)	(100.0)
Total Non-Perumnas	19,174	54.5	19,791	81.9	27,985	136	24,502	130.5	91,452	402.9	
Cumul. Non- Perumnas	19,174	54.5	38,965	136.4	66,950	272.4	91,452	402.9			
TOTAL I & II	28,399	71.3	43,129	116.2	64,008	183.4	38,296	152.3	173,832	532.2	
CUMULATIVE TOTAL	28,399	71.3	71,528	187.5	135,536	370.9	173,832	523.2			

BTN initially made loans at 5, 7, and 9 percent. It now makes loans at 5 percent, with 5 percent down and 5 to 20 year terms to low-income borrowers (20th to 70th percentile) and at 9 percent, with 10 percent down and 20 year terms to moderate-income borrowers (70th to 90th percentiles).

KPR loans are supposed to be limited to owner-occupants who own no other residential property. Security for these loans is the house and the borrower's interest in the underlying property. The legal form of that security is a power of attorney which is designed to give BTN the authority to sell the property in order to satisfy any claims against the borrower. Loans cannot exceed 95 percent (90 percent for moderate-income borrowers) of the value of the property as determined by BTN. The borrower's household income is supposed to be at least three times monthly amortization but no more than the highest civil service salary (Rp. 300,000/month). Borrowers must have BTN savings accounts.

The kinds of housing for which loans can be financed by BTN are also limited. Floor areas must range between 36 M<sup>2</sup> and 70 M<sup>2</sup> and lot sizes between 60 M<sup>2</sup> and 200 M<sup>2</sup>. Maximum selling prices, which are established by the Director General of Cipta Karya, are currently Rp. 82,500/M<sup>2</sup> in Jakarta and 78,500/M<sup>2</sup> in other areas. Improved lot costs cannot exceed 50 percent of the selling price of any financed unit. Additional building, design and site plan standards are also applied by BTN.

BTN finances only the purchase of units which are constructed by developers which have been pre-qualified by the Bank with respect to the developer's legal structure, technical competence, and "financial liquidity". BTN expects developers to have identified all buyers before construction begins, which implies some level of pre-screening against BTN borrower qualification standards by the developer. Pre-qualified developers may submit project proposals at any time. If a project is approved, BTN issues a commitment letter which specifies the type and number of units to be constructed, the selling price and maximum mortgage amount for each type of unit, the total amount of loans to be granted, the period of time during which the commitment letter will be valid, and requirements to be met by the developer in carrying out the project. Upon satisfactory completion of a project, BTN transfers approved loan proceeds directly to the developer, less 5 percent of the principal amount of each loan which is withheld for 100 days as security against defective construction.

Individual KPR borrowers must be salaried employees of the government or some other dependable employer. Self-employed persons are ineligible. The salary level of the applicant must be confirmed by the applicant's supervisor. Incomes of spouses or other household members are rarely reported or discovered, nor is income earned by the borrower outside of his/her salaried job.

The owners of houses purchased with KPR loans are precluded by their purchase agreement with BTN from selling the property for 10 years. Since this is an unrecorded restriction and since it is, in any case, possible in Indonesia to "re-sell" BTN-financed units without recordation, this covenant is not often enforceable.

Borrowers frequently make mortgage payments through payroll deductions by their employers. Arrangements, and the degree of conscientiousness of employers in making the deductions and transferring payments to BTN, vary from employer to employer.

Table 12 shows the distribution of BTN Perumnas and Non-Perumnas mortgages by principle amounts. From this it is apparent that 88 percent of all Perumnas mortgages (by value) and 96 percent of recent mortgages have been in principal amounts of Rp. 3 million or less. Two-thirds of non-Perumnas mortgages, on the other hand, have been for loans in principal amounts of Rp. 5 million or more. In the most recent period, only about 16 percent of BTN's non-Perumnas mortgages were under Rp. 5 million, indicating that while Perumnas mortgages are decreasing in amount, non-Perumnas mortgages are increasing. In theory, mortgage amounts reflect house prices, taking into account downpayments, which in turn reflect borrower household incomes, so that the data on mortgage amounts ought to indicate a divergence between Perumnas and non-Perumnas borrowers with respect to incomes as well as mortgage amounts.

In reality, the correlation between borrower incomes and purchase prices cannot be assumed because the determination of income levels by BTN and Perumnas is, perhaps necessarily, imprecise, as a consequence of the general difficulty of determining any household income other than the salary income of the head of household. Thus, while Perumnas is producing smaller and less expensive units in order to make its products more affordable, and BTN's non-Perumnas developers are trying to move as far up-market as BTN will permit, the impact of these trends on the income levels of beneficiaries is difficult to determine in the absence of direct data.

BTN's efficiency in the administration of the KPR program and in mobilizing non-government resources through Tabanas accounts has been lessened by a number of management problems. Most of these have been noted by others including BTN's own staff and many are the subject of helpful attention by the Bank's management and consultants. The principle problems are:

- Accounting Systems. Bookkeeping at BTN is not acceptably rigorous. Monthly installments of mortgage loans are not systematically recorded, in part because of the manner in which some employers report payroll deductions. Because interest due is calculated on the basis of

amounts outstanding at year's end, borrowers may be overpaying interest. In the case of Tabanas accounts, the posting of deposits is as much as 18 months behind; roughly 6 million transactions are unposted at any one time. Since the Bank's policy in cases where pass-book postings differ from its own records is to rely on its accounts, such delays are likely to inhibit depositors from entrusting significant funds with BTN. This may help to explain why BTN's average Tabanas account balance is only Rs. 28,105 (30 June 1984).

- Loan payment arrearages. BTN's pursuit of delinquent accounts suffers from a lack of determined action. In some branches, as many as 30% of the accounts are late by an average of 3 months. In theory, accounts more than six months in arrears are turned over to a central government agency (BUPN) for collection. In reality, BTN follows no consistent practice on the length of time it holds delinquent accounts before requesting BUPN action. In any event, BUPN reportedly takes as long as two years to initiate action on such files.

- Resource mobilization inefficiencies. In addition to the accounting problems noted above in BTN's Tabanas accounts, there is some question about the economic efficiency of mobilizing resources through more than 3 million accounts which had, during a recent month, an average transaction value of Rp. 444 (including average deposits of only Rp.229). About half of BTN's deposit and withdrawal operations are performed by post office under contract with BTN. Since BTN pays the post office Rs. 90 for each of the transactions handled by that agency, it is hard to see how the program could be economic from BTN's standpoint.

### 3. Perum Perumnas

Perumnas was established by presidential decree in 1974 as the second major player in the urban housing strategy developed during Repelita I and implemented during Repelita II. Perumnas is charged with developing and selling housing affordable to households with incomes between the 20th and 80th percentiles; currently, that range is stipulated to be Rp. 52,000 to 190,000 per month. Table 13 displays Perumnas' annual production figures since its first year of operation, projected through 1988/89 on the assumption that Repelita IV targets for the production of 140,000 units will be fully achieved.

It is apparent from Table 13 that Perumnas will be hard-pressed to achieve its objectives for the current plan. To return to schedule, they will need to more than double the average level of production achieved during the past three years. Although this will be neither simple nor entirely within Perumnas' control, such outputs could be achieved if both Perumnas and the agencies with which it must cooperate make certain required adjustments in their operations. It is likely, however, that production during the current year will not reach the projected level

because, after four months of the period, construction financing had yet to be secured for any of these units. In any case, these prescriptions, and the ailments which they imply, have been described by Perumnas and others for the most part and are recapitulated here as background for the analysis which follows. The more difficult question is whether, even if Perumnas meets the Repelita targets, it will have made good use of the public subsidies it employs.

Perumnas' expanding line now includes four kinds of products: "core" houses on serviced lots for lower income households; "low-cost" houses on serviced lots for moderate-income households; flats; and serviced sites which are sold for subsequent residential, commercial or public uses. Tables 14-17 show the production histories for each of these products.

Read together, these tables show that a generally increasing percentage of Perumnas' output is affordable to lower income households. Table 17 also gives some indication of Perumnas' plans to sell serviced sites, profits from which will be used to subsidize units affordable to households at the bottom of Perumnas' income range.

Upon completion of the units, Perumnas must sell them, rent them, or keep them vacant. All units sold by Perumnas are financed by BTN. Perumnas is accordingly dependent on BTN in two ways: it must get a BTN commitment letter in order to secure construction financing; and it must wait for its clients to be approved for BTN take-out loans before it can be paid off. The discrepancy between units completed and units sold in the early years of the program is shown in Table 18.

TABLE 13

Perumnas: Production of Housing Units and Serviced Plots.  
1975-76 - 1988-89  
(Number of Units and Plots)

	Total Units	Total Production Change Over Prior Year	% Change
1975/76	2,068	N/A	N/A
1976/77	3,176	1,108	53.6
1977/78	14,081	10,905	343.4
1978/79	31,345	17,264	122.6
1979/80	26,243	-5,102	-16.3
1980/81	14,700	-11,543	-44.0
1981/82	10,203	-4,497	-30.6
1982/83	17,114	6,911	67.7
1983/84	10,951	-6,163	-36.0
1984/85	37,090	26,139	238.7
1985/86	39,910	2,820	7.6
1986/87	43,000	3,090	7.7
1987/88	45,000	2,000	4.7
1988/89	46,300	1,300	2.9
Cumulative	341,181	-	-
Average annual production 1979/80 - 1983/84			15,842
Average annual production 1984/85 - 1988/89			42,260

TABLE 14

Perumnas: Production of Lower Income Units

	Total Units	% of Year's Total	Change Over Prior Year	% Change
1975/76	0	0	-	-
1976/77	0	0	-	-
1977/78	9,306	66.1	9,306	
1978/79	10,788	34.4	1,482	15.9
1979/80	19,505	-74.3	8,717	80.8
1980/81	5,662	38.5	-13,843	-71.0
1981/82	4,885	47.9	-777	-13.7
1982/83	11,964	69.9	7,079	144.9
1983/84	5,861	53.5	-6,103	-51.0
1984/85	19,646	53.0	13,785	235.2
1985/86	20,705	51.9	1,060	5.4
1986/87	21,422	49.8	716	3.5
1987/88	16,520	36.7	-4,902	-22.9
1988/89	18,231	39.4	1,711	10.4
Cumulative	164,495	48.2	-	-
Average annual production 1979/80 - 1983/84				9,575
Average annual production 1849850 - 1988/89				19,305

TABLE 15

Perumnas: Production of Moderate Income Units  
(not including flats)

	Total Units	% of Year's Total	Change Over Prior Year	% Change
1975/76	2,068	100.0	2,068	-
1976/77	3,176	100.0	1,108	53.6
1977/78	4,775	33.9	1,599	50.3
1978/79	20,557	65.6	15,782	330.5
1979/80	6,738	25.7	-13,819	-67.2
1980/81	7,758	52.8	1,020	15.1
1981/82	4,934	48.4	-2,824	-36.4
1982/83	4,820	28.2	-114	-2.3
1983/84	1,962	17.9	-2,858	-59.3
1984/85	13,652	36.8	11,690	595.8
1985/86	14,389	36.1	736	5.4
1986/87	14,886	34.6	498	3.5
1987/88	11,480	25.5	-3,406	-22.9
1988/89	12,669	27.4	1,189	10.4
Cumulative	123,864	36	-	-
Average annual production 1979/80 - 1983/84				5,242
Average annual production 1849850 - 1988/89				13,415

TABLE 16

Perumnas: Production of Flats

	Total Units	% of Year's Total	Change Over Prior Year	% Change
1975/76				
1979/80	0	-	-	-
1980/81	1,280	8.7	1,280	-
1981/82	384	3.8	-896	-70.0
1982/83	600	3.5	216	56.3
1983/84	760	6.9	160	26.7
1984/85	792	2.1	32	4.2
1985/86	816	2.0	24	3.0
1986/87	692	1.6	-124	-15.2
1987/88	10,000	22.2	9,308	1,345.1
1988/89	9,100	19.7	-900	-9.0
Cumulative	34,936	10.2	-	-

TABLE 17

Perumnas: Production of Serviced Lots

	Total Lots	% of Year's Total Units	Change Over Prior Year	% Change
1975/76				
1981/82	0	-	-	-
1982/83	99	.6	-	-
1983/84	Not available	-	-	-
1984/85	3,000	8.1	-	-
1985/86	4,000	10.0	1,000	33.3
1986/87	6,000	14.0	2,000	50.0
1987/88	7,000	15.6	1,000	16.7
1988/89	6,300	13.6	-700	-10.0
Cumulative	26,399	7.7	-	-

TABLE 18

COMPARISON OF PERUMNAS UNITS COMPLETED AND SOLD

Year	Units Completed	Units Sold	As % of Completed Units	Units Completed but not sold (cumulative)
1975/76 thru				
1978/79	50,660	250	.5%	50,420
1979/80	26,243	3,769	14.4%	72,894
1980/81	14,700	7,015	47.7%	80,579
1981/82	10,203	27,572	270.2%	63,210
1982/83	17,015	36,826	216.4%	43,399
1983/84	10,951	13,107	119.7%	41,243
1984/84 (proj)	17,045	20,622	121.0%	37,667
1985/86 (proj)	40,171	57,752	143.8%	20,086
1986/87 (proj)	41,341	40,756	98.6%	20,671
1987/88 (proj)	42,261	41,801	98.9%	21,131
1988/89 (proj)	44,261	65,392	147.7%	0
Total	314,862	314,862		

Source: BTN, Perumnas, and NCSI projections and estimates

Table 18 shows both the extent of the problem at the end of 1980/81 when the financing backlog was roughly 80,000 units and the results of efforts made by BTN to reduce its backlog as of the end 1983/84 when about 40,000 units completed by Perumnas remained unsold.

Not all of the responsibility for unsold inventory is BTN's. In the early years of the program, the question of whether Perumnas should sell or rent its units was still open and so no particular efforts were made to initiate sales. In addition, some small amount of units have proven to be unmarketable, mostly because of the small size of their lots. Most importantly, however, Perumnas allows purchasers to live for a year in its units prior to sale, during which time prospective borrowers' payments are accumulated towards the downpayment. As much as a year's worth of production is therefore in the unsold inventory as a consequence of this factor alone. However, even if 15,000 unsold units are attributable to these causes, 25,000 units are otherwise being delayed.

In any event, both BTN and Perumnas are taking actions calculated to reduce the problem. The Perumnas Board has proposed requiring prospective purchasers to accumulate their downpayments prior to initial occupancy by establishing a loan-linked savings account with BTN. Although the problems faced by BTN in posting its savings accounts might argue for allowing greater choice in where potential borrowers are allowed to save, the concept of eliminating the year's grace period is sound. Perumnas has also taken steps to make unmarketable units more palatable to consumers through consolidation and reconfiguration.

A second marketing problem has beset Perumnas in its program to sell developed lots in order to generate earnings which could be applied to its subsidy programs. Although Perumnas has taken steps to give more prominence to its sales efforts, which should result in better performance in the future, it has yet to be demonstrated that Perumnas can make a profit on the sale of unsubsidized lots. Given the size of its responsibilities under Repelita IV, it is arguable that Perumnas should concentrate on eliminating the inefficiencies in its current programs before establishing new ones. The view of Perumnas management, however, is that the long-term solvency of the program depends upon recapturing some of the increment to market value caused by the installation of infrastructure on project land.

Recapture means selling at market price, or at least at a price above Perumnas' real costs including the cost of central government subsidies, some portion of the land which has been increased in value by Perumnas' development. Because land which has not been directly improved but is merely contiguous to installed infrastructure also usually appreciates very substantially as a consequence of this proximity, Perumnas proposes to start acquiring larger tracts of land, mostly in or near the biggest cities. By improving a portion of such sites and selling the balance at prices reflecting the appreciation caused by such improvement, Perumnas hopes to generate profits for use in its subsidized projects. In addition to giving them more profitable real estate, this approach, which Perumnas calls "integrated large-scale development", is designed to increase economies of scale in design, project processing, materials procurement and other development functions, and to enhance sales by focusing on surer markets.

Table 19  
Perumnas: Proposed Locations for Large Scale Integrated Development Projects (Repelita IV - 1984 through 1989)

City	Land Area (Hectares)	Housing Distribution			Industrial/ Commercial	Open Space	Gov't/Social Facilities	Roads/ Drainage	Perumnas Development Cost (In US\$ Million)			
		Low Income	Middle Income	High Income					Low Cost Housing	Serviced Land	Total (1984)	
1.0 Medan	300	105 HA (35%) 5775 Units	45 HA (15%) 1575 Units	15 HA (5%) 150 Units	45 HA (15%) 450,000 M2	15 HA (5%)	21 HA (17%)	54 HA (18%)	20.96	18.45	39.41	
2.0 Jakarta	150	52.5 HA 2887 Units	22.5 HA 788 Units	7.5 HA 75 Units	22.5 HA 225,000 M2	7.5 HA	10.5 HA	27 HA	10.48	9.22	19.7	
3.0 Jakarta	150	52.5 HA 1887 Units	22.5 HA 788 Units	7.5 HA 75 Units	22.5 HA 225,000 M2	7.5 HA	10.5 HA	27 HA	10.48	9.22	19.7	
4.0 Jakarta	80	28 HA 1540 Units	12 HA 420 Units	4 HA 40 Units	12 HA 120,000 M2	4 HA	5.6 HA	14.4 HA	5.59	4.92	10.51	
5.0 Jakarta	118	22 HA 1868 Units	32.45 HA 2258 Units	0	13.9 HA 139,740 M2	7.5 HA	6.75 HA	35.4 HA	6.78	12.65	19.43	
6.0 Bandung	400	140 HA 7700 Units	60 HA 2100 Units	20 HA 200 Units	60 HA 600,000 M2	20 HA	28 HA	72 HA	27.95	24.59	52.54	
7.0 Surabaya	500	175 HA 9625 Units	75 HA 2625 Units	25 HA 250 Units	75 HA 750,000 M2	25 HA	35 HA	90 HA	34.94	33.75	65.69	
8.0 Bekasi	100	35 HA 1925 Units	15 HA 525 Units	5 HA 50 Units	15 HA 150,000 M2	5 HA	7 HA	18 HA	5.99	6.15	13.14	
		1798 HA	34207 Units	11079 Units	840 Units	2,659,740 M2	9.15 HA	124.35 HA	337.8 HA	\$124.17	\$115.95	\$240.12

Notes:

- 1.0. Land acquisition is completed for PULO Gebang, Governor's approval has been obtained for Martubung, Ujung Menteng, Driorejo and Bojong Rawa Lumbu and final negotiation are in process. Cilincing, Cakung and Ujung Berung are still in the preliminary phase of land acquisition and Governor's approval is in process. One major constraint in purchasing such large areas (1798 hectares) is financing. In most instances, for small projects, sites are purchased and paid up in full. Longer term instruments of financing such as a land bond program or even option purchases phased over five years are being evaluated by Perum Perumnas.
- 2.0. Only three site locations are outside existing corporate city limits. These are Ujung Berung (Bangung), Driorejo (Surabaya), Bojong Rawa Lumbu (Bekasi). The remaining five are within corporate city limits.
- 3.0. With the exception of Pulo Gebang no preliminary site designs have been undertaken as yet by Perum Perumnas. To ensure an integrated development approach for these larger sites the proposed gross land distribution is as follows: low cost housing (by Perumnas) at 35%, middle income at 15%, high income at 5%, industrial/commercial at 15%, open space at 5%, government/social facilities at 7%, major roads/drainage at 18%. Average net densities for low cost housing is estimated at 55 units/hectare, middle income at 35 units/hectare and high income at 10 units/hectare. These are preliminary and subject to revision based on more detailed feasibility analyses.
- 4.0. The costs presented in Table I represent estimated (in 1984 prices) total production costs by Perum Perumnas. Project revenues are not presented in Table I and are under view. Average production costs which include both direct and indirect costs were derived from actual 1983 costs and a 10% across the board increase projected for estimating the 1984 average production costs, project production costs in Table I represent only project cost by Perumnas, which covers land acquisition, low cost housing, serviced land for private and minimal infrastructure. Private sector investment for commercial/industrial and high income housing development are not included.
- 5.0. Perum Perumnas is currently reviewing its marketing techniques and project financing to ensure greater participation and response by the private sector.

Secondly, Perumnas ranks all applicants which survive the initial screening in accordance with points assigned to six criteria, as follows:

	<u>Maximum Score</u>
1. Length of work service	
a. 20 to 23 years	200
b. less than 20 years, or more than 25 years, deduct 40 points per 5 years of deficiency or excess	
c. 40 years or more	40
d. 5 years or less	0
2. Household size	
a. 5 persons, including applicant	50
b. more or less than 5 deduct 10 points per person more, or less, than 5	
c. 1 person or more than 8 persons	10
3. Length of residence or work in the city where the project is located	
a. 10 years	50
b. less than 10 years, deduct 10 points per 2 years	
c. less than 2 years	0
4. Marital status	
a. Married	50
b. Widow	40
c. Widower	30
d. Single	20

5.	Savings at the time of application	
a.	100% of the down payment or more	200
b.	75% of the down payment	150
a.	50% of the down payment	100
b.	25% of the down payment	50
a.	10% of the down payment	00
6.	Housing status	
a.	Displaced by Perum Perumnas project	200
b.	Long term lease of a house	120
c.	Live with another family or on a monthly rental house	80
d.	Barracks or housing provided by an employer	40

Among pensioners, the length of employment need not be considered. Applicants are ranked on the basis of their total points in this recently revised system.

The third level of screening is designed to give priority to three categories of applicants:

75 percent to civil servants and members of the Armed Forces (ABRI) and pensionees.

15 percent to employees of corporations, private or state owned.

10 percent to persons whose land have been acquired compulsorily by the government.

The foregoing ratio is merely a guide. Changes may be made in each project, depending on the demand or applications received from each group.

#### 4. KPR Program Conclusions

From a public policy standpoint, the dilemma with respect to the government's homeownership program is that the stipulated income levels create a program which primarily benefits borrowers who could afford unsubsidized financing. Since these stipulated incomes are almost certainly much lower than actual incomes, the problem is more egregious than published information would indicate. Moreover, given Repelita IV

goals, the current depth of subsidies might be too expensive to maintain even if the beneficiaries were households who could not afford to participate in the unsubsidized market.

In response to this difficult situation, the government is currently considering alternatives for refocusing and reducing BTN subsidies. Proposals to increase BTN interest rates and downpayment requirements which are currently being reviewed by the government would go a long way toward reducing the per unit cost of the subsidies. The decision to cut off annual appropriations to Perumnas was also a step in this direction. The accurate screening of client household incomes which would be required to refocus the program is much more difficult. In general the approach of BTN, and many other agencies throughout the developing world, has been to rely upon a combination of self-certification by borrowers and the construction of housing types not thought to be marketable to middle income households to ensure that at least initial occupants were lower income.

This approach has apparently not worked in Indonesia. BTN houses are routinely designed with expansion in mind. Because the value of the underlying serviced property is typically such a high proportion of the purchase price, it is economic on all except perhaps the smallest lots to buy a small unfinished BTN house and immediately add rooms. Where lots are too small to permit outward expansion, developers frequently design their structures with foundations and corner posts adequate to support a second story. Thus, while the initial BTN-financed product is not "middle-class housing", even the initial occupants of BTN-financed neighborhoods tend to have incomes which make subsidies unnecessary. Although there has apparently been no study of this question, the anecdotal evidence is consistent on the point.

The subsidiary question, then, is whether it is possible, at an acceptable administrative cost, to implement a more effective eligibility screening process. To some probably unforeseeable extent, this problem may be alleviated by a change in mode from single-family detached units to increasing reliance on row-house and multi-family construction in which the expansion possibilities, and therefore the attractiveness to middle-class consumers, is much reduced. Perumnas is resisting such a change on the grounds that its clients would prefer to ride long distances on subsidized public transportation rather than buy flats in the inner city. This raises some doubts about Perumnas' (and BTN's) approach from an urban planning perspective; it also makes more important the question of who is being served and to what segment of the market the units are being directed.

##### 5. P.T. Papan Sejahtera

P.T. Papan Sejahtera (PTPS) was incorporated on March 19, 1980, for the purpose of providing medium- and long-term mortgage loans to middle income households. PTPS's authorized capital totals Rp 15 billion,

consisting of 15,000 common shares with a par value of Rp 1 million per share. As of December 31, 1983, 5,000 shares had been fully paid by the shareholders, as follows:

<u>Shareholders</u>	<u>Number of Shares</u>	<u>Percent of Total Shares</u>
Bank Indonesia	1,000	20.0%
PT Private Development Finance Company of Indonesia (PDFCI)	750	15.0%
PT Asuransi Jiwa Bersama Bumi Putera 1912	625	12.5%
PT Asuransi Jiwasraya	625	12.5%
PT Asuransi Jasa Indonesia	250	5.0%
PT Rei Sewindu	250	5.0%
Friesch-Groningsche Hypotheekbank. N.V. Netherlands	750	15.0%
International Finance Corporation	750	15.0%
TOTAL	5,000	100.0%

Between (January 1983 and June 84, PTP's cost of funds was: 11.05%. They had two funding sources:

- (1) 7 1/2 percent liquidity credits (Rs. 9 billion, 12 years) from Bank Indonesia
- (2) 17.1 percent bonds (15 1/2 percent + 1.6 percent fees Rs. 6 billion, 5 years)

Most of the bonds were purchased by Provident funds. The marketability of those bonds was enhanced by the fact that withholding tax on interest paid to their purchasers was reduced by 50 percent prior to the issue by PTPS.

For FY 1984 (July 84 - June 85), PTPS projects its resource needs to be Rp 24 billion, of which they propose to get Rp. 12 billion from BI liquidity credits (10 percent) and Rp. 12 billion from the sale of bonds at 18 percent (16 1/2 percent + 1.5 percent fees) for a blended cost of funds 14.05 percent. The 50 percent withholding tax concession on bond interest has been eliminated, however, and PTPS has been advised by its underwriters that the market will not support a sale at 16 1/2 percent

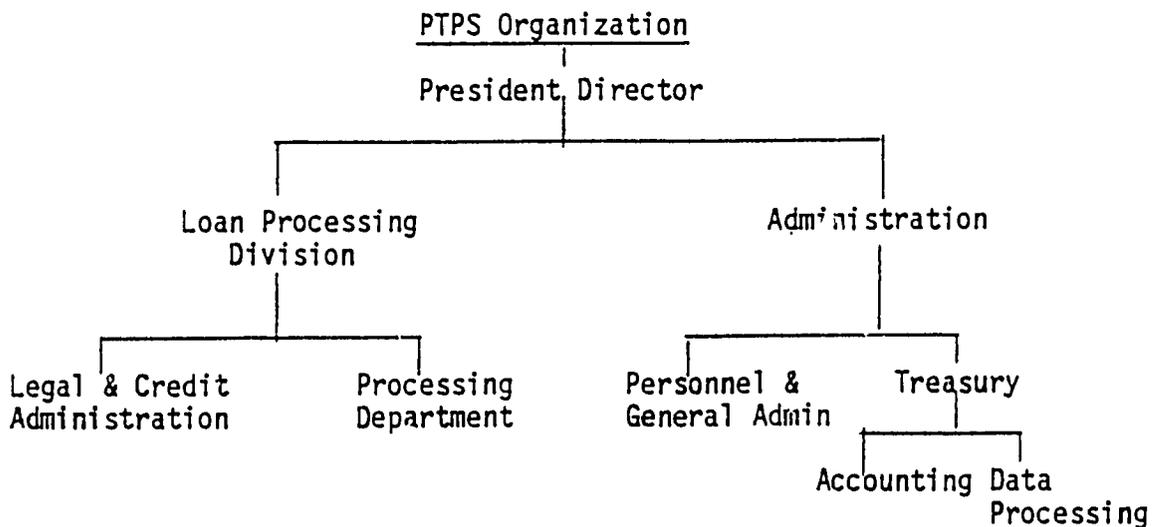
(19-20 percent is considered by them to be more realistic). As a consequence, BI has agreed to give PTPS a 5 year bridge loan at 16 percent in the amount of Rs 7 billion. If and when PTPS is able to sell its bonds at 16 percent or below, the proceeds will be used to repay BI. PTPS projects its 1985 resource needs at Rs 45 billion.

PTPS, like BTN, finances only new ownership units constructed by approved developers. Qualifying households must have incomes between Rp.200,000 and Rp. 1.2 million per month. The value of the underlying property cannot exceed Rs. 50,000,000 of which 90 percent can be financed by PTPS. Applicants cannot pay more than 33 percent of their monthly income for amortization of the loan. Loans are for 15 years, but the interest rate is fixed for only 3 years, after which it must be renegotiated. PTPS charges a 2 percent handling fee. They also raise revenues through a 2.5 percent referral fee if clients referred by them purchase houses from participating developers.

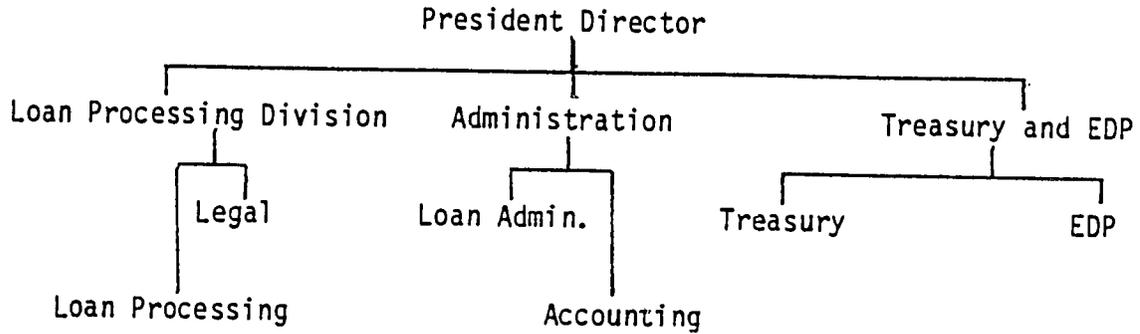
PTPS currently has backlog of 200 approved applications. They did not approve any applications between July 1, and July 25 because their resources (which were to have been replenished on January 1, 1984) were exhausted pending approval of the Bank Indonesia's bridge loan.

PTPS's cumulative loan volume is about 2000. The average loan size has been roughly Rs.15,000,000 during 1984. The number of participating developers is approximately 25. Like BTN, Pappan does not make construction loans which must, therefore, be obtained from commercial lenders (at 21-24 percent), developer capital, purchaser advances, or other sources.

PTPS has a total lending staff of 50 (plus 10 to operate its headquarters building). Currently, the organization comprises two divisions (loan processing and administration), each with its own Managing Director:



Under a proposed reorganization, functions would be divided among 3 divisions:



The Loan Processing Department will handle loans between the application and disbursal stage. Loan Administration will have responsibility for collections. Currently the accounting functions are computerized. Loan processing will be automated during 1984.

Idle funds, which are normally a small proportion of total investments, earn 4-5 percent over cost of invested funds. Such funds are invested exclusively in institutional paper, including commercial paper held by institutions. A bank with which PTPS has deposits receives loan payments for no charge, in exchange for deposits by PTPS. PTPS's administrative burden is increased by the fact that that it's clients frequently do not separate their insurance payments from the mortgage payment and tend to pay approximate rather than exact amounts. About 2 percent of outstanding accounts are late, few for more than 3 months. Only 4 have proceeded to foreclosure.

Table 20 highlights PTPS's financial operations for Fiscal Years 1981 through 1983:

TABLE 20  
PTPS Financial Indicators

	1981	1982 (Millions of Rupiah)	1983
Total Assets	8.2	11.9	28.6
Percent change		45.1%	140.3%
Mortgage loans	1.8	5.9	14.6
Percent change		227.8%	147.5%
Operating revenue	1,403.9	1,740.6	2,899.6
Percent change		24.0%	66.6%
Net Income	259.0	386.0	394.7
Percent change		49.0	2.3%
Interest income	1,389.1	1,689.6	2,449.1
Percent change		21.6%	45.0%
Mortgage interest income	127.3	676.1	1,584.8
Percent change		431.1%	134.4%
Shareholders' Equity	5,326.4	5,712.4	6,007.1
Percent change		7.2%	5.2%
Number of loans disbursed	184	376	678
Percent change		104.3%	80.3%
Average mortgage value	9.9	11.3	13.5
Percent change		14.1%	19.6%

In 1984, PTPS reports making 667 loans with an average value of approximately Rp. 15 million. In 1981 and 1982, the interest rate on mortgage loans was 18 percent, but was lowered to 15 percent at the direction of the Ministry of Finance in mid-1983. In mid-1984, interest rates were raised back to 18 percent. The maximum repayment period on PTPS's mortgage loans is 15 years, and up to 33.3 percent of a household's income can be applied to debt repayment. Based on these terms and prevailing rates, PT Papan's average loan sizes have been affordable to the income groups shown in Table 21.

TABLE 21

	PTPS LOAN CHARACTERISTICS			
	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984 (proj.)</u>
Average loan size (Rp. mill.)	9.9	11.3	13.5	15.0
Interest Rate	18%	18%	15%	18%
Amortization period	15 years	15 years	15 years	15 years
Monthly payment (Rupiah)	159,432	181,978	189,944	241,563
Monthly income (Rupiah)	478,774	546,479	567,400	725,415
Income Percentile of beneficiaries	over 90th	over 90th	over 90th	over 90th

It is clear from the preceding that PTPS is serving the top of the market. While this may be justifiable from a purely commercial standpoint, the contribution of Bank Indonesia credits ought to be attended by greater efforts on the part of PTPS to market its facilities towards the lower end of the income spectrum it is supposed to be serving. Alternatively, there may be no public purpose served by government involvement in PTPS at all. Given its clientele, PTPS might function more efficiently if it were free to raise funds and make loans at market rates.

#### 6. Kampung Improvement Program

The Kampung Improvement Program (KIP) was initiated in 1969 in Jakarta with the aim of upgrading the infrastructure of informal urban Kampung. The KIP has expanded geographically beyond the capital city to cover a projected 400 cities during Repelita IV. The central administration of the program is the responsibility of the Directorate of Housing which is part of Cipta Karya in the Ministry of Public Works. Central contributions are calculated to provide a minimum level of services to Kampung in cities which are then expected to provide additional investments from local resources and from international donor funds and to administer local programs. Current procedures require the formation of a Kampung committee in each project neighborhood. The committee is supposed to be consulted on development priorities and layout, although the program continues to be criticized for the lack of resident participation in project development.

The physical components of a local KIP typically include drainage, water supply, solid waste disposal, road and footpath improvements, communal bathing facilities, health clinics and schools. The Kampung Improvement Program initially concentrated on improving access to and within high-density "urban villages", and on water supply. Since then, these programs have been greatly diversified. In successive stages the number of cities selected for KIP development have been increased. During Repelita II (1974-1979), several major and many medium-sized cities were designated targets of improvement, and during Repelita III the number of both KIP and water supply projects were increased and extended to a total of 200 towns and cities. The next stage in sharing the benefits of development more widely will be the extension of the water supply program to the smallest administrative centers, the IKKs, of which there are more than 3,000 throughout the country. During Repelita IV, KIP is supposed to benefit 3,000,000 people living in 400 jurisdictions.

Rather than being directly recovered from beneficiaries, local costs of KIP projects are supposed to be amortized through property taxes (IPEDA) raised city-wide. Three kinds of KIP effort have been distinguished, partly on the basis of fund sources. The primary program, undertaken in 15 large and medium-sized cities mainly from their own budgets, augmented since 1974 by foreign funds, is typified by Jakarta. Investment of \$107 million in that city's KIP has resulted in the upgrading of all of its worst Kampung to the benefit of 3 million people. Although Kampung continue to form on the outskirts of the city, the KIP is being drastically reduced in Jakarta as a consequence of worries about the debt service burden incurred by the program to date. In other major cities such as Surabaya, where about half of the contemplated program has been completed, enthusiasm continues to be strong.

In view of the KIP success in larger cities, and in recognition of the relative financial weakness of smaller cities, the government included in Repelita III a "Perintis" (stimulus) program which provided grants to communities to support local KIP programs. Funds provided were only Rs 2.8 million per hectare, on the theory that communities would use local funds or foreign loans (for which the benefitting community would accept the repayment responsibility) to augment the Perintis funds. Seventeen cities have used foreign loans (11 from the World Bank, 4 from the Netherlands, and 2 from ADB) but very few have contributed local funds to KIP projects. Most communities have preferred to do whatever proved possible within limits of the central government resources. It is the Perintis component of KIP that is the primary vehicle of the plan to expand into 400 communities during Repelita IV.

The third KIP approach comprises locally-developed programs based on collective self-help ("gotong royong"). Central or provincial grants in modest amounts are used to pay materials costs and development is under the control of Kampung committees with more or less guidance from local officials. In general, these projects have been successful, particularly where simple designs have been undertaken.

The KIP has been studied at length since its inception in 1969. In general, it has been shown that the program leads to substantial property value increases, that it triggers considerable investments by the residents of improved kampungs, and that it does not result in large-scale displacements of low-income residents. The program has been criticized on the grounds that it emphasizes amenities such as sidewalks to the exclusion of necessities such as water systems. However, since KIP projects are increasingly joined with other sectoral programs including water supply, this criticism is not particularly persuasive.

Other criticisms of the program have included the observation that program development, in spite of some improvement in this regard, continues to allow insufficiently for resident participation. Operations and maintenance of installed infrastructure, which are (except for roads and water systems) the responsibility of residents, are sometimes neglected. Finally, poor technical assistance from local governments has caused design and other problems in some KIP projects. On balance, however, KIP has been highly successful in achieving its objectives and has proven to be replicable in nearly every sort of Indonesian community.

## 7. Transmigration

Indonesia's largest public housing effort is the Transmigration Program which is projected to produce 2-1/2 times as many new units as the BTN and Perumnas programs. It is also the largest voluntary resettlement scheme in the world. After operating at a very low level for more than two decades (1950-1972), the program began to grow rapidly during Repelita I. Although the Repelita III target of 500,000 families proved too ambitious, the objectives for Repelita IV have been increased to 750,000 households, or roughly 3 million persons.

TABLE 22

### TRANSMIGRATION: 1950-1982

	1950-72	Repelita I 1969/70-73/4	Repelita II 1974/5-78/9	Repelita III 1979/80-83/4	Repelita IV 1984/5-88/9
Persons/year	18,900	36,300	75,380	420,000	630,000
Households/year	4,500	9,200	17,560	100,000	150,000

Source: Arndt, 1983

Most transmigrants come from Java, with small numbers from Bali and, more recently, Lombok. Since Java's population of approximately 100 million is growing by 2 percent per year, achievement of the Repelita IV goals would reduce the population growth on that island by 350,000 to 400,000 persons per year. Since the 2 percent growth rate itself was the net after a lower level of transmigration (about 250,000 persons per year in 1980), the annual reduction in the rate of population growth on Java attributable to transmigration at the Repelita III levels is perhaps 600,000 to 650,000 persons per year, or less than one-third of the projected population increment.

Nearly all transmigrants have been rural families although urban households are now being recruited. It is likely, however, that the primary beneficiaries of transmigration are Javanese cities which would otherwise have had to absorb the biggest proportion of these persons.

Table 23 shows that Sumatera has been the major recipient of transmigrants (60 percent since 1979), with Kalimantan (15-18 percent), Sulawesi (10 percent currently) and Maluku and Irian Jaya (9 percent between them) also important. Irian Jaya is expected to receive an increasing percentage of transmigrants during Repelita IV.

Although such studies as have been done of the Transmigration Program show that the average incomes of transmigrants do not exceed incomes in rural Java, the fact that those who volunteer to leave their home province are likely to be poor and landless means that their lives are much improved from an income standpoint. Such evidence as is available indicates that very few transmigrants have returned to their home villages in Java. ~

TABLE 23

TRANSMIGRATION: NUMBER OF FAMILIES AND PERSONS  
1969/70-1982/3  
(000)

	Sumatra	Kalimantan	Sulawesi	Maluku	Irian Jaya	Total					
<b>A. Families</b>											
1969/70						3.9					
70/71						4.4					
71/72						4.1					
72/73						11.3					
73/74						32.4					
Repelita I											
1974/75	8.0	1.6	3.3	0.2	0.2	13.3					
75/76	6.1	2.1	2.7	-	0.2	11.0					
76/77	5.5	3.2	3.2	-	-	11.8					
77/78	12.7	5.7	4.5	-	0.2	23.1					
78/79	20.0	4.5	3.9	-	0.5	28.8					
Repelita II	51.9	17.1	17.6	0.2	1.0	88.0					
1979/80	31.5	10.5	4.6	2.1	2.1	50.7					
80/81	46.9	16.6	12.4	2.0	2.0	79.9					
81/82	52.5	18.6	10.7	1.1	5.3	88.0					
82/83	43.6	11.4	7.6	1.9	2.7	67.4					
Repelita III	174.5	57.1	35.3	7.1	12.0	250.0					
						500.0					
<b>B. Persons</b>											
		%	%	%	%	%					
1969/70	11.1	62.4	2.6	14.6	4.1	23.0	-	-	-	-	17.8
70/71	8.4	42.0	4.0	20.0	7.4	37.0	0.2	1.0	-	-	20.0
71/72	9.0	47.6	4.7	24.9	5.1	27.0	-	-	-	-	18.9
72/73	31.8	61.2	7.2	13.9	11.9	22.9	0.5	1.0	0.5	1.0	51.9
73/74	45.0	61.6	8.0	10.9	19.0	26.0	1.0	1.4	-	-	73.1
Repelita I	105.2	57.9	26.6	14.6	47.7	26.3	1.7	01.9	0.5	0.3	181.7
1974/75	35.2	62.0	7.1	12.5	13.3	23.4	0.6	1.0	0.7	1.2	56.8
75/76	27.	56.9	9.1	19.0	10.9	22.7	-	-	0.7	1.5	48.0
76/77	26.3	49.0	13.8	25.7	13.7	25.5	-	-	-	-	53.7
77/78	54.4	57.2	20.2	21.2	20.0	21.0	-	-	0.7	0.7	95.1
78/79	84.6	68.7	19.3	15.7	16.9	15.7	-	-	2.3	1.9	123.2
Repelita II	227.8	60.4	69.4	18.4	74.8	19.8	0.6	0.2	4.3	1.1	376.9
1979/80	130.7	62.2	43.3	20.6	18.6	8.9	8.6	4.1	8.9	4.2	210.1
80/81	191.5	58.5	67.5	20.6	51.6	15.8	8.5	2.6	8.4	2.6	327.5
81/82	210.8	58.9	77.8	21.7	42.9	12.0	4.3	1.2	22.1	6.2	357.9
82/83	174.9	64.2	47.8	17.5	30.8	11.3	7.9	2.9	11.3	4.1	272.6
Repelita III	707.9	60.6	236.4	20.2	144.0	12.3	29.2	2.5	50.7	4.3	1,168.1

The program has not been inexpensive. Table 24 gives a rough indication of the growth in cost of transmigration efforts over a 15 year period.

TABLE 24  
 TRANSMIGRATION DEVELOPMENT BUDGET ALLOCATION AND  
 NUMBER OF FAMILIES SETTLED. 1969/70-1983-4

	Transmigration Budget		Families Settled 000	Cost per Family	
	billion Rupiah	As % of Total Development Budget		Rp 000	US\$
1969-70	0.85	0.7	3.9	218	577
70/71	1.04	0.6	4.4	236	624
71/72	1.36	0.6	4.1	332	878
72/73	2.32	0.7	11.3	205	522
73/74	3.66	1.1	22.4	163	393
74/75	6.65	1.1	13.3	500	1,204
75/76	15.08	1.2	11.0	1,370	3,301
76/77	27.30	1.4	11.8	2,314	5,576
77/78	50.93	2.3	23.1	2,205	5,313
78/79	104.50	4.3	28.8	3,628	7,344
79/80	146.2	4.2	50.7	2,884	4,689
80/81	272.4	5.4	79.9	3,409	5,543
81/82	394.0	6.2	88.0	4,477	7,280
82/83	526.7	6.1	67.4	7,815	11,663
83/84	539.0	5.8	(125.0)	(4,312)	(6,436)

a Target: recently revised to 150,000

b Exchange rates used 1969-70-71/2: Rp328  
 1972/3 393 (weighted average)  
 1973/4-77/8 415  
 1978/9 494 (weighted average)  
 1979/80-81/2: 615  
 1982/83-83/4: 670 (weighted average)

Source: Arndt, 1983

CHAPTER 6

EMPLOYMENT GENERATION FROM HOUSING AND  
RELATED INFRASTRUCTURE DEVELOPMENT

Investment in housing has been seen by many governments as a means of satisfying basic needs or political necessity as opposed to promoting economic development. This view proceeds from the assumption that because the construction of housing does not contribute directly to a productive enterprise which adds both construction and permanent jobs to the economy, it is not competitive with investment in non-residential construction, manufacturing, mining, or agriculture. That is, while the construction of, e.g., an office building creates both construction employment and permanent jobs for office workers, investment in housing yields only temporary employment for construction workers.

Although the production of safe and sanitary housing is in itself desirable as a product of development, a more careful examination of the uses to which houses are put by developing country households reveals a somewhat different economic picture in which investment in housing and related infrastructure affect employment in seven ways:

- (1) direct provision of jobs in construction, and indirect jobs in the building material and transport industries.
- (2) providing purchasing power to construction sector employees which increases the purchase of consumer goods and services which, in turn, generates secondary employment;
- (3) providing the physical locus for home-based industries;
- (4) drawing into the economy household investments of labor and capital which would otherwise remain uninvested;
- (5) increasing the capacity of the members of households to educate themselves;
- (6) improving the health and therefore increasing the productivity of workers; and
- (7) creating demand for household appliances, home maintenance and improvements and other housing-dependent goods and services.

Partly as a consequence of the preceeding, it can be concluded that housing development is not merely competitive with but also complementary to other forms of development. Even given this complementarity and the essential desirability of housing as a development product, however, there remains the question of how much investment in housing is healthy for the Indonesian economy at this stage of its development.

In most countries, housing investment is a large and important component of construction output. According to some observers, the level of housing investment in Indonesia is lower than the 5 percent of GDP sometimes considered an ideal level (World Bank 1980). The proportion of housing in construction output in Indonesia has been estimated to be as large as one half (World Bank, 1982 ) and as low as 38 percent (Ministry of Public Works, 1980). However, the recent cancellation and rephasing of non-housing construction by the public sector in FY 1983-4 means that the share of housing in total construction has increased considerably since these estimates were made. This suggests that housing construction accounted for perhaps 50 percent of construction output by 1984.

It is necessary to keep in mind that the majority of housing investment is informal, non-monetized, and accordingly difficult to estimate. The performance of the Indonesian construction sector is probably similar to that of countries at a similar level of overall economic development. Countries with per capita incomes averaging U.S.\$400 or lower (in 1970 dollars) generally have GDP shares of between 2 and 3.5 percent for housing . Indonesia is estimated to have a share of similar magnitude, based on the available evidence. At the middle income level, housing investment grows faster than at low or high income levels. Economic growth and urban migration create a demand for housing, while the transition of housing from the non-monetized to the formal sector as quality levels improve increases the measured size of the housing output in relation to GDP. Therefore, as the economy expands the size of both the real and measured housing component of the construction sector is expected to increase in relation GDP unless public intervention diverts investment away from residential development. Given the complementarity of residential and non-residential development and the currently low level of housing activity, such interventions would appear to be unnecessary in Indonesia.

#### A. Measures of the Construction Industry

By 1982, construction output in Indonesia had reached Rp. 758 billion (at 1973 market prices), accounting for 6.1 percent of real GDP. Between the years 1978 and 1982, construction sector output (measured in 1973 prices) grew at an average annual rate of 9.4 percent. During the 1978-82 period, real GDP grew at a somewhat slower rate of 6.5 percent. In 1983, construction growth slowed to 2 percent. By way of comparison manufacturing sector output grew faster than construction or GDP, at an

average annual rate of 11.4 percent. The higher rate of growth of construction compared with total output meant that this sector increased its share of real output from 5.53 percent to 6.15 percent during the 1978-82 period before falling back slightly in 1983. Meanwhile the manufacturing sector increased its share of real GDP from 12.9 percent to 15.4 percent.

Per capita cement consumption is estimated to have increased by 250 percent between 1970 and 1980. Domestic production of cement increased at an average annual rate of 28 percent or by 632 percent between 1974 and 1982. The wholesale price index for cement reached 240 in 1983 from a base of 100 in 1975, an average annual growth rate of 11.6 percent, a rate lower than the rate of inflation for the same period. The volume of import of cement, was more than double local production in 1975, but declined to 8 percent of the total in 1984. Meanwhile the index for structural clay products increased by 114 percent, structural material by 119 percent and sawn timber by 203 percent. The price index for residential buildings (which does not include informal units built of impermanent materials) increased by 132 percent between 1975 and 1983, an average annual rate of 11.1 percent. The non-residential building construction index showed a similar increase of 11.4 percent per year. Public works (roads and bridges) experienced a greater average annual rise of 13.2 percent. Input supply seems to have kept pace with demand and construction sector price increases during the 1975-83 period were lower than the general rate of inflation. One significance of this is that increases in housing investment will likely result in proportionate increases in building materials outputs rather than in disproportionate price escalation, with consequent increases in employment or productivity or both.

Real wages in construction for unskilled workers are estimated to have remained constant during the 1971-80 period. During the late 1970's, the construction sector appears to have grown by an average of more than 9 percent per year, while construction employment increased at a 5.36 percent rate. The construction sector absorbed primarily those with lower levels of education. The rate of growth of jobs in construction exceeded that of all other sectors. Manufacturing employment expanded at a little over 1 percent per year (although output in that sector increased at an even faster rate than in construction). Employment in agriculture declined by almost 2 percent per year while in services it grew by nearly 5 percent.

#### B. Direct Employment Generation from Housing Investment

It is in this general context of rapid growth that the particular employment generation consequences of housing investment should be evaluated. In order to provide housing services, houses have to be built, roads constructed, and water, sanitation and lighting provided. In most LDC's a large part of the package of housing services

are organized and obtained through the action of individual households or informal groups of households. Rudimentary housing using traditional building materials is constructed outside the monetized sector with self-help labor. Materials are obtained locally and fashioned or processed in small production units or by the consuming households themselves. Water is obtained from a river or similar communal source, wood is the primary cooking fuel. Toilets are improvised or a matter of daily decision.

Modernity is transforming the package of housing services. Shelter of a more durable nature, piped and potable water and sanitary waste disposal are expected to accompany this transition. Higher densities impose a transition from a rural resource use where many of the inputs required for the provision of housing services are available within the locality, to dependence upon a more organized construction sector. Economic growth will expand the size of the construction sector and, assuming no dramatic changes in technology, result in a higher volume of employment. The employment elasticity in the construction sector of Indonesia is estimated to have increased from 0.51 for the 1961-71 period to 0.59 for the 1971-80 period. Meanwhile the elasticities for other sectors fell, resulting in the employment elasticity for GDP declining from 0.53 to 0.39 (World Bank 1983 A p. 42). If the 1970-1980 construction elasticity prevails in the future, and if this sector grows at an average annual rate of 10 percent, construction employment would grow by about 6 percent. Employment in residential construction would also grow at the same rate if the share of housing in construction remains unchanged. If, as is expected in the short-term, that share increases, residential construction employment will rise proportionately faster.

One method of estimating direct employment generation in housing construction is to obtain information from builders. PERUMNAS provided detailed cost and labor input data for standardized houses built in many parts of Indonesia. Employment generation for a fixed volume of investment, is calculated based on this data. The costs are arithmetic averages obtained from contracts tendered in 1983 which ignore variations in cost by location. Since PERUMNAS makes bulk purchases of building materials and designs are standardized, the materials cost variation and price risks are reduced for projects across locations. Perumnas houses are of unplastered cement sand block construction with turkish toilet, an indoor hand pump and electrical connections, tile roofs, unreinforced concrete slab floors, and reinforced concrete corner posts.

TABLE 25

QUANTITY OF LABOR PER DWELLING IN PERSON DAYS

<u>Type of labor</u>	<u>House Size</u>			
	15 M <sup>2</sup>	18 M <sup>2</sup>	21 M <sup>2</sup>	30 M <sup>2</sup>
Supervisor	1.92	2.10	2.38	3.13
Tradesperson	38.01	40.55	44.68	56.19
Laborer	71.36	75.59	88.92	114.23
TOTAL	111.29	118.24	135.98	173.55

NOTES: Figures are derived from data provided by PERUMNAS Infrastructure and land preparation items included in the wage bill and the labor days generated have been subtracted.

Total construction cost without land has been estimated as Rps 70,000 per square metre of floor area by PERUMNAS. These were prices for November of 1983. The direct construction costs for different house sizes are given below in US\$ with appropriate currency and price level adjustments.

TABLE 26

CONSTRUCTION COST BY SIZE OF DWELLING IN US \$

<u>Lot Size</u>	<u>House Size</u>	<u>Construction Cost</u>	<u>Land and development</u>	<u>Total</u>
60 M <sup>2</sup>	15 M <sup>2</sup>	1,155.0	809.8	1,964.8
72 M <sup>2</sup>	18 M <sup>2</sup>	1,386.0	971.7	2,357.7
90 M <sup>2</sup>	21 M <sup>2</sup>	1,617.0	1,214.7	2,181.7
120 M <sup>2</sup>	30 M <sup>2</sup>	2,310.0	1,619.2	3,929.1

NOTE: It is assumed that construction costs increased by 10 percent from Nov. of 1983 to August 1984. Land and land development cost includes cost of developed land US\$11 per square metre, land registration \$0.44, pre-sale maintenance cost (PERUMNAS must maintain housing projects for a period of time between completion and their acceptance by the local authority) \$2.06 per square metre. No economies of scale have been assumed either in construction of larger houses or in land preparation.

In Table 27, these construction cost estimates are applied to a hypothetical investment of US\$100 million to show the magnitude of the effect of house and lot size choices on employment generation. While the differences are greatest for tradespersons and skilled laborers, the labor-intensiveness for all classes of workers was more than 20 percent higher for the smallest units than for the largest.

TABLE 27

PERSON DAYS BY LOT AND DWELLING SIZE

Dwelling Size	15 M <sup>2</sup>	18 M <sup>2</sup>	21 M <sup>2</sup>	30 M <sup>2</sup>
Labor Type Size	60 M <sup>2</sup>	72 M <sup>2</sup>	90 M <sup>2</sup>	120 M <sup>2</sup> Lot
Supervisor	581	530	515	474
Tradesperson	11,507	10,230	9,661	8,505
Laborer	21,603	19,069	19,227	17,290
TOTAL	33,690	29,829	29,407	26,272

For the same volume of investment in construction, building larger houses creates fewer direct jobs. For example, the move from 15M<sup>2</sup> to 18M<sup>2</sup> results in an 11.5 percent decline of direct (on-site) employment, implying an employment elasticity of house size of 0.67 percent (for the 15 M<sup>2</sup> to 18 M<sup>2</sup> range). For the 18M<sup>2</sup> to 21M<sup>2</sup> range the elasticity was almost negligible at 0.09, while for the 21M<sup>2</sup> to 30M<sup>2</sup> range it increased to 0.32. While these calculations should be read as indicative rather than precise predictions, it is nevertheless clear that direct employment benefits of a substantial nature can be achieved by decreasing the size of houses being constructed, assuming a market for such units. Since these unit sizes and the employment generation data presented here are based upon current practice with publicly subsidized units, it is apparent that changes in program design by the government can have significant employment generation effects.

In addition to examining the number of jobs created, it is important to consider the effect of alternative kinds of housing investment on the kinds of jobs created. In general, the lower the ratio of unskilled to skilled laborers, the fewer the number of jobs that will be created from any investment because skilled workers will work more productively and because technology will be substituted for labor in order to increase the productivity of higher cost labor. In July-August, 1984, unskilled daily wages for construction workers ranged from

Rps 2,000 to Rps 2,900 while laborers with previous construction experience received between 10 to 20 percent more. Daily wages for skilled laborers varied by location, project and task. Some skilled workers worked at piece rates, or on specialized sub-contracts. According to data provided by PERUMNAS, skilled wages around Jakarta were about Rp 4100. Other sources, including interviews with workers in Jakarta indicate that PERUMNAS estimates may be as much as 20 percent too high. A reasonable estimate is that the ratio of unskilled to skilled wages in housing construction is usually between from 1.25 to 1.5.

However, this ratio depends on the type of construction. Values reported by developers ranged from 0.6 to a high of 2.0 depending upon the volume of construction and the skills required. One private developer indicated that with larger volume the ratio will decrease in his projects from 1.67 to about 0.6. This developer was building 70M<sup>2</sup> houses in a project of 175 houses, but he expected to expand operations to increase volume by more than 10 times once construction credit was arranged. These values are broad indicators of the ratio for unfinished single story residential construction. Increasing the quality and quantity of finish work would reduce the ratio.

Employment generation is also affected by the kind of builder doing the construction. In general, medium volume builders (\$100,000 - \$1,000,000 per year) building projects averaging 100 units in size generate more direct employment per dollar invested than all others except very small builders working primarily in the informal sector. Medium volume builders also build any standard unit at the lowest cost (Strassman 1982, p. 16).

Under conditions which currently prevail in Indonesia, market averages for employment generation which will result from the investment of US\$100 million in housing are shown in Table 28.

TABLE 28

PERSON YEARS OF WORK FOR US\$100 MILLION INVESTMENT

<u>Skill Level</u>	<u>Person Years</u>
Unskilled	16,238
Skilled	25,820
TOTAL	41,958

Various policy interventions are possible in order to increase the direct employment generated from housing construction. Land acquisition is essential to reduce pressures for high density, high-rise residential construction. Available data indicate that labor intensiveness need not change very much between walk-up apartments and single story dwellings. However, if machine-intensive technology is used it may fall by over one third. Discussions with a site supervisor at one development indicated that total land and land development costs were similar for walk up apartments and detached dwelling's of the same size. However, construction costs for the latter were lower, with labor intensiveness being higher by 20 percent or more. Employment levels per completed dwelling will be still lower for mechanized high-rise residential construction. Per dollar spent, construction of detached houses tends to create more employment than other development types, but high land and land development costs in urban areas may force developers to avoid detached units. In any case, as the price of raw land per unit (i.e., the intrinsic value of location) increases, employment intensiveness decreases since the acquisition of raw land generates very few jobs per unit of capital invested.

Design, lay out, building standards and the method of implementing construction also have employment effects. In some cases, higher standards can be satisfied with construction techniques which have a high labor content. In general, however, the application of higher standards will mean lower labor intensiveness because materials costs will increase faster than labor costs and because fewer, more highly skilled workers will be used.

The level of site preparation will depend on many factors, but such tasks can be carried out with different technologies requiring different mixes of labor and machines. Unless standards for infrastructure are set at very high levels, a substantial amount of substitution between labor and non-labor inputs is possible. The substitution elasticity for infrastructure, based on evidence from six developing countries was similar to that of the dwelling unit. Ratios of unskilled workers to skilled workers may vary widely across different types of infrastructure. For road work it may be as high as 10 but for plumbing and electrical work outside the house it may be lower than 1. However the data provided by PERUMNAS indicates that road work on projects would not have a labor component higher than 10 to 15 percent. This may be primarily due to high design standards set for the projects by the Ministry of Public Works. Lower quality infrastructure, without provision for maintenance, could discourage rehabilitation and expansion investments by homeowners. Typically, the skilled wage premium is 25 to 50 percent higher than the average for the dwelling structure. The ratio of labor to full costs is at most equal to the average for all housing construction. Therefore the labor generator is closer to the lower end of the range for housing construction. Land preparation depends very much on the site. Although employment generation is important, other

factors like per unit site costs may prompt selection of locations which require machine intensive development. It should also be noted that visits to PERUMNAS projects and evidence from various KIP sites indicate that good infrastructure, among other things, promotes significant volumes of home improvement.

Employment generation effects of infrastructure development can be determined by a method similar to that used for housing. As in the case of housing construction, an infrastructure package must be stipulated. If we consider roads, foot paths, and drains as provided in PERUMNAS projects as the upper limit, such a value can be estimated.

For infrastructure development, the employment generator will range between 0.80 and 2.94. As in residential construction, the level of technology is the primary determinant of labor intensiveness. The use of machines can reduce labor intensiveness to a very low level. If the same level of investment and unskilled wages are assumed, employment generation from machine-intensive infrastructure development may be as little as one half the average for simple residential construction.

### C. Indirect Employment Effects

The indirect employment effects of residential construction are somewhat more difficult to estimate. Figures for the labor component in building materials based on survey data for 1970 have been developed by the World Bank study (1974). However in order to obtain the volume of employment generated through the building materials sector, it is necessary to estimate the proportion of materials cost in total direct construction cost. In addition, the labor content or average labor component in total construction materials has to be estimated.

With respect to the building materials and transport industries, the fact that larger units tend to have larger rooms makes them less materials-intensive, per square meter of living area, than smaller units. Where larger units are created by the addition of second stories, the percentage of overall investment devoted to land will normally decrease and, therefore, both direct and indirect employment will increase per square meter. Other configurations such as duplex and row-house construction which reduce the cost per unit of land will have similar effects. "Finished" houses (i.e., those that have ceilings, floor coverings, plastered and painted walls, etc.) will be more materials-intensive than unfinished houses at the time of completion, but actual experience in Indonesia suggests that households which purchase unfinished units make subsequent investments of money or labor to finish them. Thus, the ultimate employment generation effects of finished and unfinished units may be roughly equal.

These considerations aside, Table 29 shows the average labor component of locally produced building materials in Indonesia.

TABLE 29

LABOR COMPONENT IN LOCAL BUILDING MATERIALS

<u>Building Materials</u>	<u>Labor Component</u>
Brick	0.45
Tiles	0.45
Stone, sand and gravel	0.30
Asbestos products	0.25
Cement	0.25
Asphalt	0.20
Metal pipes	0.20
Plastic pipes	0.20

Source: World Bank 1974

Applying these estimates to information provided by developers concerning the percentages of various materials in typical low-cost housing production yields an average labor component for a PERUMNAS house of roughly .35.

Table 30 presents estimates of the number of jobs in building materials industries which would be sustained by the hypothetical investment of US\$100 million in housing construction at various labor intensiveness ratios, using construction techniques and materials currently favored by Indonesian developers.

TABLE 30

EMPLOYMENT GENERATION IN MATERIALS MANUFACTURE BASED ON  
US \$ 100 MILLION INVESTMENT IN HOUSING CONSTRUCTION  
Labor Component

<u>Labor Type</u>	<u>0.250</u>	<u>0.275</u>	<u>0.300</u>	<u>0.325</u>
Skilled	5,938	6,532	7,126	7,719
Unskilled	7,729	8,942	9,264	10,035
Total	13,658	15,024	16,390	17,755

D. Post-Occupancy Employment Impacts

Employment is also generated through home improvement maintenance and upgrading. Obviously not all households are capable of or willing to undertake such an activity. Upgrading and additions are closely related to housing and household characteristics (e.g. income). Changes in such characteristics affect the pace or frequency as well as

the extent of home improvement. The employment generated by such activity may be substantial. Providing core houses or improving infrastructure results in upgrading. The employment generators associated with home improvement are expected to be comparable to those associated with residential construction. Expensive finishes or the installation of imported fixtures reduces the labor component of improvement cost. In most cases, as in other home building, the work will be carried out by small-scale contractors or direct hire workers managed or supervised by the household head.

Housing also influences employment by providing the location for home-based enterprise. Recent research in Sri Lanka and Peru provides evidence that in an urban setting a significant proportion of total metropolitan household income and employment is generated through home-based economic activities. Meanwhile studies of the urban informal sector and small-scale enterprise have repeatedly noted the large proportion of home-based activities. It has been estimated that over one-third of all informal sector participants operate businesses from their homes and that nearly one-half of all entrepreneurs with fixed locations use their homes for commercial purposes. In Lima, Peru, nearly 11 percent of the households were estimated to have a home-based enterprise. They employed nearly a tenth of the metropolitan labor force and raised household incomes by 167 percent, while contributing nearly 4 percent to metropolitan income. Meanwhile in Colombo, it was estimated that more than one-fifth of households had a home enterprise. They generated one fifth of metropolitan employment while accounting for half as much of metropolitan household income. In Jakarta with its vast informal sector, a large proportion of the households can be expected to generate some or all of their incomes through home-based activities. In such an environment households would be engaged in retailing, small-scale manufacturing and food processing, dress-making, personal services ranging from laundries to hair dressing, and providing housing services by renting rooms to lodgers. Home enterprises are most likely in mixed residential or medium quality neighborhoods. In Lhokseumawe, Indonesia, one study concluded that 15 percent of households supported themselves in whole or part from home enterprises.

Home enterprises are thus an important component of the urban economy. In Indonesia, if 10 percent of the urban households are engaged in home-based production, for 1984, the number of home enterprises would be approximately 650,000. However this is a conservative estimate and the number may be twice that.

The employment and income generated per enterprise would vary by location, operator, and type of enterprise, among other household and market characteristics. In the late 1970's informal urban household enterprises in the Jakarta area were estimated to have provided an average of 1.33 persons per enterprise with employment, not all of it full time, paid or regular. More than half were one person enterprises. Single person enterprises added a median weekly gross value of about

Rp 7,000 while over one quarter of all enterprises added a gross weekly value of over Rp 15,000 (or US\$36 at that time). (More 1981). Meanwhile at the start of the 1970's it was estimated that over 40 percent of the volume of employment created in the Jakarta area was in the informal sector (Sethuraman 1976). The average employment in small-scale manufacturing and household industries was estimated to be 3.32. If we take the informal sector average of about a decade ago of 1.33 as a reasonable estimate for the average level of employment in household industries, and use the conservative estimate of 650,000 establishments in Indonesia, a total employment volume of 865,000 is suggested. This would correspond to about 2 percent of the entire Indonesian labor force of 1984, or 7 percent of the urban labor force. Using less conservative assumptions yields an upper limit of 15 percent of the urban labor force.

Households in new housing projects built by PERUMNAS were observed to be operating a variety of home-based enterprises. The project manager at one site estimated that between a fifth and one third of households operated a home enterprise. For example, Mrs. M. operated a hair dressing shop at home. Her husband, like three quarters of the project household heads, was a government worker. Over a period of 3 years this household of 7 persons had added 2 rooms and increased the size of their home by about 50 percent. Mrs. M, through her home enterprise, increased household income by one third.

It has been estimated that 18 percent of total consumption value in Jakarta was produced in home gardens or home sites. Not surprisingly, subsistence production was found to be most important for low-income households.

#### E. Policy and Program Design Implications

While the calculation of direct and indirect employment generation attendant on the investment of capital at any particular point in a national economy is necessarily imprecise, the preceding analysis suggests that policy and program design decisions can significantly affect the number and kind of jobs which result from housing development. In particular, the following variables will affect jobs/capital ratios:

- (1) The lower the level of construction wages, the greater the number of jobs which will be created;
- (2) Lowering the ratio of skilled to unskilled workers will increase employment generation;
- (3) The production of smaller dwellings is more labor-intensive per unit of invested capital than larger units;
- (4) Reducing the capital per dwelling unit invested in raw land will increase employment generation;

(5) Medium-volume builders and very small (mostly informal) builders are more labor-intensive than others;

(6) Low-rise development is more labor-intensive than high-rise projects;

These variables obviously do not operate independently. The level of construction wages is a function of the ratio of skilled to unskilled jobs and that in turn is dependent upon whether the construction is high or low-rise. Many other links are also apparent.

Leaving aside all considerations other than employment generation, then, public policies and programs should encourage the production of very dense, low-rise, unfinished, small units on expensive land by medium-sized or informal sector developers. Of course, all other considerations can be left aside only for analytical purposes and jobs are only one of the aims of housing production. In particular, inexpensive land is rarely available in locations close to employment opportunities, so relatively expensive sites may be unavoidable. Once site costs increase beyond some point, the economies of high rise construction may become compelling.

The question which remains to be explored in subsequent chapters however, is what changes in public approaches to shelter could be made consistent with other objectives in order to increase employment in the construction sector.

## CHAPTER 7

### CONCLUSIONS AND RECOMMENDATIONS

#### I. The Problems

Although the preceding assessment differs in some respects from those of other observers, most donor agency and GOI officials share certain basic views of the shelter problem in Indonesia. This consensus is based upon an increasing abundance of information on the sector. The World Bank and ADB have both done recent urban sector appraisals, leading to similar conclusions about the needs for infrastructure and housing. The World Bank has also looked recently at the housing sector and a Bank team has recently visited Jakarta on a housing mission. Bank and IMF staff have looked at and are currently studying capital markets with a particular interest in term transformations (i.e., the conversion of short-term deposits to long-term loans). AID is developing the TOR for a pension funds study. UNDP is in the middle of a long-term project to develop what they call an Integrated Urban Development Strategy (IUDS) for Indonesia.

Housing the enormous projected influx of new households to Indonesian cities, replacing and repairing units removed from the housing stock, existing deficient units and providing adequate infrastructure to service all urban households would be a challenge to the most efficient and entrepreneurial of economies. In Indonesia, there are five major impediments to accommodating shelter and related infrastructure needs:

##### (1) Unavailability of long-term capital:

There is not a general shortage of capital in Indonesia, although it is expensive, and capital sometimes flows out of the economy in anticipation of devaluations, etc., causing short-term availability problems. Short-term capital is expensive because inflation expectations are high, although the inflation rate is currently in single digits, and because, as a consequence of relative inflation, the Rupiah is expected to depreciate against the dollar and other currencies in which Indonesians have the option of denominating their money investments.

In order to attract uninvested or unproductive capital into the banking system, the GOI in 1983 substantially deregulated interest rates on deposits and on loans. This has resulted in dramatic intermediation into the banking system and high liquidity. Although this should help to moderate interest rates, no significant drop is likely until inflation expectations decrease. Since depositors have a choice of how to denominate their deposits between, e.g. rupiahs and dollars, rupiah deposits must earn sufficient interest to compensate for perceived risks of unfavorable fluctuations in the relative value of the rupiah against other currencies (in addition to other risk factors). Because the recent trend has been for the rupiah to decline against such currencies, term deposits require interest premiums in inverse proportion to their liquidity.

As a consequence, the market interest rate for such long-term housing finance as is available is on the order of 24 percent. 10 year mortgage bonds could be marketed at around 20 percent, which also implies a rate of somewhere around 24 percent for loans. Nor do these rates buy the consumer a particularly long term. The few unsubsidized mortgage loans being made by commercial lenders typically have 2 to 10 year terms. Since in the Indonesian tax system interest on home purchase loans is not deductible, these rates result in a very high amortization burden for consumers.

For a household at the median income level (Rp. 100,000 per month), the present value of a monthly payment of Rp 33,000 (hence, 33 percent of income) at 24 percent interest over 10 years is about Rp. 1.5 million. Assuming a sales price for a 20 M<sup>2</sup> core house of Rp.2,000,000, such a household would be required to make a 25 percent down payment. Although difficult, such terms would not be impossible for a great many Indonesian households.

At least in countries where household savings rates are high, amortization costs are reduced most directly by increased down payments. Subsidized home purchase programs in Indonesia require very small down payments (5-10 percent) and thus require very large interest rate subsidies to make monthly payments affordable. No very rigorous data exist with respect to the savings rates of low-income households in Indonesia, but it is likely, based on the evidence from other Asian countries, that many low-income households could and would make much larger down payments. This would have the advantage of drawing uninvested funds into the economy in addition to reducing interest subsidy requirements.

Such investments by households are discouraged by the regressive nature of current subsidy programs. Most of the benefits of interest rate subsidies now provided by the GOI through BTN go to higher income households. This reduces the amount of investment which would otherwise be made in housing by such consumers and is a disincentive to private sector home lenders from entering that portion of the market below the 90th percentile of household incomes. The GOI is actively considering increases to BTN interest rates to a sliding scale range from 9-18 percent. This will have the effect of increasing the amount of housing financed by the government and/or reducing the GOI subsidy burden.

Such a change is also desirable because it will create opportunities for unsubsidized private sector lenders in the mortgage market. There is a risk, however, of overlooking the fact that raising BTN interest rates will not necessarily make BTN subsidy programs less regressive and could possibly have the opposite effect. The problem in Indonesia is not that some housing is subsidized but that people who could afford unsubsidized housing are BTN's primary beneficiaries. Because the size of mortgages given by BTN is a function of borrower incomes, it would be less expensive under its existing program for BTN to finance low-income borrowers than its current clients even though the interest subsidy is somewhat deeper for the former. Under the proposed interest rate regimes, it will be cheaper to make loans to higher income households; there will therefore be little incentive for BTN to lower its client income profile.

(2) Lack of aggressiveness among formal housing finance institutions

The only two significant mortgage lenders (BTN and PTPS) have developed analogous policies for approving borrowers in accordance with which they make loans only to purchasers of homes in developments for which they have previously issued a commitment letter (CL). BTN and PTPS review project design, location, unit size and the like prior to issuing CL's. Thus, a prospective homeowner could not hire a contractor to build a house on a lot owned by him or her and expect to get a take-out loan. In addition, none of the state commercial banks will give construction loans without a BTN or PTPS letter. Since the great majority of urban housing has been and will continue to be constructed by small contractors or by owner builders, the advantages in terms of efficiency of these practices need to be weighed against the exclusiveness which they introduce into the market.

This situation obtains because there is no incentive for BTN to be entrepreneurial in its approach to its customers, much less efficient, because PTPS is restrained by its government dominated board from aggressively testing the market with new, unsubsidized facilities, and because no competition for either of these organization has been permitted.

(3) Informality of Registration and Titling

The ultimate security for the financing of most formal sector real estate transactions in Indonesia as elsewhere is an interest in real property, including land and improvements. In Indonesia, unambiguous documentation of real property interests is frequently difficult to obtain for the historical and administrative reasons explored in Chapter 5.

Until these problems are overcome, formalization and deepening of the mortgage finance system will be retarded and borrowers will probably pay a risk premium in the form of high interest rates. The development of title and mortgage insurance and a secondary mortgage market all would be facilitated by more extensive and reliable recordation practices.

(4) Unavailability of Serviced Sites

Although parts of Indonesia (Java, in particular) are very densely populated by world standards, land has not to date proved to be the most serious impediment to housing development, leaving aside the titling problems described above. What has been an impediment, and what threatens to become a much more serious problem in the future, is the lack of infrastructure to service residential development.

In the infrastructure arena, insofar as it relates to housing, the principle problems are financing, training, project selection and equity. Financing, not surprisingly in view of the demographics, is the overwhelming priority, but the other problems are also serious and will have a bearing on the effective use of whatever financing is available.

Virtually all observers appear to agree that increasing the level of funding for both capital and O&M costs of local infrastructure ought to be achieved by expanding the capacity of localities to raise tax and user fee revenues. During the first two Repelitas, the GOI's strategy was to finance virtually all costs of local infrastructure. During the third Repelita, a distinction between capital and O&M (including replacement reserves) emerged with the former being considered the general responsibility of the central fisc. In the current Repelita the general thinking seems to be in the direction of at least selective transfer of responsibility for all local-serving infrastructure costs to localities. The generalized effect of this will be to transfer the financial burden of residential infrastructure from central government oil and other revenues to housing consumers, making the ownership and occupancy of housing more expensive.

Few provincial or sub-provincial governments have the administrative capacity, even if they had the legal authority, to collect property-based or other taxes. In Jakarta, which is presumably among the most sophisticated of local governments, tax collection performance has been highly inconsistent, leading to an effective rate of 0.1 percent. Thus training of local government staff, assistance with the acquisition and use of data processing equipment and the like will be necessary.

Training needs at the local level extend beyond revenue functions to planning, designing, developing, operating and maintaining local infrastructure, whether those functions are handled directly by government agencies or, as is increasingly the case for O&M, by quasi-public agencies established for the purpose. A number of efforts have been initiated with reported success.

Project selection is likely to be a problem at all levels of government but the current focus is on how to allocate central government funds in a rational way given the huge current and prospective demands. The National Urban Development Strategy Project funded largely by the UNDP, is the best hope for the development of some sort of data base and decision-making process that would allow projects or communities to be ranked after taking into account current and projected needs, costs, local effort and capacity, and other factors. The project seems to have useful objectives and the support of GOI officials.

Equity is a difficult problem with respect to infrastructure because the equal distribution of access to utility systems is not entirely consistent with the need to raise local revenues to pay for such services. The revenues which are the easiest to collect are hook-up fees which, if they come close to covering actual capital costs, can impose a

very substantial barrier to low-income households. Water, sewer, and electrical hook-ups add both value and comfort to a house, of course, so there is little reason for households who can afford it not to connect. But low-income households may not be able to cross this barrier. Moreover, the operators of local utilities systems, who are charged with responsibility for fiscal prudence, have not found it economic to extend, e.g., water lines to common taps serving multiple users. So in most communities, the primary residential beneficiaries of infrastructure development are the middle class occupants of single-family homes. The KIP program has provided an increasingly widespread exception to this generality.

(5) Insufficient numbers of jobs in the construction sector

The urban labor force is growing even faster than the urban population. Increased output in the leading sectors of the economy (especially mining and agriculture), to the extent they are achieved, will lead to expanded GDP and to an improved balance of payments but not to a proportionate increase in employment opportunities. Manufacturing, if it expands at the 9.5 percent per year rate prescribed by the government will provide relatively large number of jobs but manufacturing is currently a small part of the economic base of Indonesia. Thus, the residual sector including services and construction, into which wealth from other sectors will flow, must be relied upon to provide very large numbers of new jobs during and after the current Repelita. Since public sector expenditures on large-scale construction projects are reduced from previous years as a consequence of the continuing deferral of all but a few of the 50-odd projects rescheduled last year, private consumption of construction outputs, including especially housing which has a low import content, should be encouraged.

The universalization of primary education and increasing opportunities for secondary and higher education have done much to increase the skills of the Indonesia labor force. But the need for engineering, architectural, financial, legal and other professionals in the housing and infrastructure development industries and in government continues to be incompletely met in spite of significant training efforts by the GOI. In addition, residential contractors sometimes complain of shortages of skilled craftworkers. Some contractors are accordingly supporting the idea of a training and certification program.

III. Recommendations

In view of the preceding, the GOI should consider the following actions:

1. Modify BTN loan facilities to conform them more closely to market and affordability conditions.

As a first step towards the development of a diversified mortgage market, the interest rates charged by BTN on its home purchase loans should be raised to levels which more nearly reflect market rates for its highest income borrowers and maximum affordability for its lower income clients. The maximum rate should be no less than 18 percent with a term of 20 years, and the maximum loan amount should be that amortizable by a household at the 80th percentile of income paying 33 percent of its income toward principal and interest. Currently this would mean a maximum loan of about Rp4.0 million (Assuming a 30 percent downpayment and a 20 year term, this would allow a Rp 5.8 million purchase price). For BTN's lowest income clients, interest rates should be increased to around 12 percent for 25 year terms.

One scheme which is currently under consideration by the government would, if rigorously implemented achieve most of the objectives of this recommendation. That approach would offer interest rates of 12, 15, and 18 percent, depending on household income, require down payments of 10, 20, or 30 percent, and set maximum terms of 20 or 25 years. It has a much higher maximum loan amount than that suggested here, however.

2. Increase competition in the mortgage market

Since even at the 18 percent maximum mortgage interest rate proposed above, BTN would have little competition under current conditions, the government should consider two additional steps towards increasing the efficiency of the market place. Most immediately, home purchase lenders should be given the authority to issue tax-exempt bonds to raise funds for mortgage financing. Tax-exempt status should be limited to issues half or more of the proceeds of which will benefit low-income households. Each bond issue would require certification on the beneficiary question, but once made the certification would be irrevocable as to that issue in order to avoid the introduction of an additional risk factor into the price calculations of underwriters. This would allow PTPS, for example to sell bonds at about 16 percent in today's market, and therefore to make loans somewhat competitively vis-a-vis the top rate proposed for BTN.

Secondly, one or more of the five state commercial banks should be allowed to establish loan facilities under the same conditions and with the same access to liquidity credits as apply to BTN. Since BTN's loan volume would then depend on the relative quality of service it provided and since its profitability would depend on that plus its efficiency (reflected in its spread), there would be some considerable incentive for increased performance. As an ancillary measure, Bank Indonesia should reconsider its practice of financing arrearages on loans

in the BTN portfolio. That is, its advances of liquidity credit ought to be calculated on the assumption of a reasonable arrearage rate (say 5 percent, initially) rather than the actual rate.

3. Enhance the policy development role of the BKPN and the Ministry of People's Housing.

In order to enhance consistency between Indonesia's overall development objectives and its housing policies and programs and to insure the conscientious oversight of programs, current plans to transfer the leadership of the BKPN to the MOPH should be implemented. MOPH with the assistance of donor agencies, should develop an organized training program to provide a continuing pool of expertise in all aspects of housing finance and development. At least the most critical staff on loan from other agencies should be permanently transferred to the MOPH or replaced by permanent staff.

Although the MOPH as staff to the BKPN, should become the new focus of housing policy development, it should make its recommendations only after consultation with other affected agencies including, where appropriate, Perumnas, BTN, PTPS, provincial and local governments, other ministries, developers, and public and private financial institutions. To make this process meaningful, the government should consider requiring that all housing budget proposals be reviewed by the BKPN prior to submission to Bappenas and the Ministry of Finance.

In view of its increasing organizational capacity, and to promote decentralization of responsibility for administrative decisions, Perumnas should be delegated the authority to establish sales prices for its units. The current practice of referring such decisions to the Ministry of Public Works delays projects by up to four months and achieves little from a policy standpoint. The representation of Public Works and the MOPH on Perumnas' supervisory committee should be adequate to insure that Perumnas' pricing policies are consistent with the central government's objectives.

4. Reduce the disincentives to home purchase of the value added tax.

At such time as the value added tax is implemented, the government should consider exemptions of up to Rp 5 million on the price of dwellings purchased by the taxpayer. In order to avoid artificially inflating the cost of rental housing relative to ownership, the purchasers of rental properties should be allowed to deduct Rs 5 million per unit from the taxable amount of the purchase price of such housing.

While exemption at the modest level proposed here is justified by the need to encourage investment in low-cost, labor-intensive housing and to draw uninvested capital into the market place, proposals for larger deductions being advanced by the construction and real estate industry should be resisted because they would be too expensive in terms of lost revenues and because they are not needed.

5. Decentralize infrastructure financing and development.

As a next step towards the decentralization of infrastructure financing, all ministries involved in the provision of infrastructure financing to local and provincial governments should, begin to limit their assistance to capital costs and should require that recipient governments have in place or begin developing local revenue-raising capacity adequate to operate and maintain the facilities and to fund replacement reserves. To the extent feasible, communities should be encouraged to amortize capital costs as well. Central government efforts to train dinas staff to handle revenue generation, planning and project implementation should be increased.

Because public contributions to residential infrastructure are, to the extent they are not amortized at market rates by the beneficiaries, subsidies realized in the form of increments to the market price of improved properties, the government should, consistent with its equity objectives, attempt to avoid unnecessary regressiveness in the distribution of those subsidies. One approach to this might be for the central government to require local governments which receive central budget funds for infrastructure to develop a program which would assess the developers of high cost housing which would be connected to public infrastructure a fee (roughly equivalent to a betterment tax) which would be paid into a fund to support local KIP or similar activities.

6. Expand the supply of serviced urban land suitable for housing.

Restrictions on the ownership of land have caused fragmentation of ownership and decreased the availability and therefore increased the price of land available to housing developers. The government should consider removing these restrictions or otherwise facilitating the aggregation of sites for residential development. The more effective enforcement of property taxes and the wider imposition of such taxes should also be pursued in order to increase revenues for infrastructure and services and to increase the cost of holding vacant land for speculation purposes.

7. Increase efforts to survey and register titles to land, particularly in urban areas.

In order to support a more efficient and broadly-based real property tax system and to provide a more secure legal framework for title and mortgage insurance and mortgage-backed financing, the government should consider increasing the resources available to Agraria to impose compulsory registration on urban property owners. Economic incentives to registration, perhaps in the form of temporarily reduced rates for owners who promptly register should be combined with stricter enforcement to encourage registration.

8. Promote labor-intensive construction techniques.

The low-cost housing currently being constructed by Perumnas is highly labor-intensive. Other BTN-financed housing is more capital-intensive. The units financed by PTPS are also relatively capital-intensive. The government should accordingly consider focusing its subsidized mortgage credit programs more exclusively on the production of very low-cost units by labor-intensive contractors in high density, low-rise projects. Such a focus would have the additional advantage of increasing the number of units produced per unit of capital invested.

In addition to these particular recommendations, one general comment seems warranted. In its efforts to promote equity in the distribution of national economic resources, the GOI has erected various regulatory barriers to the sort of entrepreneurial culture which must develop if Indonesia is to successfully diversify its economy and provide jobs for its current and future citizens. Current USAID efforts in Indonesia are increasingly directed towards encouraging the Government to move towards less regulation and more recognition of the capacity of a less constrained private sector to provide the jobs and economic growth contemplated by Repelita IV. Development of the private housing sector along the lines suggested in this assessment could do much to foster this sort of commercial environment.